

**The development and implementation of a psychoeducational programme: A case study on  
mental toughness in a novice triathlete**

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## **Abstract**

As an academic and applied discipline, sport psychology is interested in identifying, understanding, measuring and developing the various mental constructs that interact with physical factors, aiming to produce optimum performance and enhance athletes' experience of sport participation. The programmes developed within sport psychology are not only applicable to sport, but have applicability within other areas, such as the performing arts, business and professions that are considered high risk, such as the military. Using a mixed methods approach and a triangulation of qualitative and quantitative data collection and analysis techniques, the goal of this research was to document the process of developing and implementing a psychoeducational mental toughness programme and to evaluate the programme through exploring the participant's subjective experience of such a programme. The aim of the research was to contribute to the existing literature on mental toughness programmes. This was attained through administering the Sport Mental Toughness Questionnaire (SMTQ) and a semi-structured interview, which informed the development and implementation of a psychoeducational mental toughness programme relative to the idiosyncrasies of the participant and grounded in strengths-based approaches to mental toughness development. Results were obtained based on post-implementation data collected through a second administration of the SMTQ and a semi-structured interview. The participant experienced the programme as positive and results were indicative of changes in his experiences of self-confidence and control, related to the global themes of mindset, flexibility and mindfulness.

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## Chapter 1: Context and Orientation

### 1.1 Introduction

Triathlons are endurance events that consist of a variety of distances, intensities and events. The most common events included in triathlons are a combination of swimming, cycling and running. The most common distances include the Sprint, which consists of a 750m swimming event, a 20km cycling event, and a 5 km running event; the Olympic, which consists of a 1.5km swimming event, a 40km cycling event, and a 10km running event; the half-Ironman, which consists of a 1.9km swimming event, a 90km cycling event, and a 21.1km running event; and the Ironman, which consists of a 3.8km swimming event, a 180km cycling event, and a 42.2km running event. Finally, there has been the recent addition of events known as “Grand Prix”-style, which include multiple swimming, cycling and running events and can include varying distance-combinations of each, either in a continuous or staggered fashion (Bentley, Cox, Green, & Laursen, 2008).

Each sporting-type, be it running, cycling or swimming, brings its own characteristics, challenges and requirements for training and competition, making triathlons a different kind of endurance experience for the athlete and requiring careful preparation in order to avoid injury and sustain consistent performance.

Chris McCormack, an elite triathlete and winner of two Ironman World Championships; one World Cup Series; one Triathlon World Championship; and one Long Distance World Championship, provides insight into the attitude it requires to push past physical limits: “When your legs scream stop and your lungs are bursting. That’s when it starts. That’s the hurt locker. Winners love it in there.”

Mark Allen, another elite triathlete and winner of six Ironman World Championships, notes in the same vein: “Racing is pain, and that’s why you do it, to challenge yourself and

the limits of your physical and mental barriers. You don't experience that in an armchair watching television.”

## **1.2 Background**

Colloquially, it is understood that this is the mental toughness that triathletes (and other endurance athletes) need in order to develop and maintain their performance – pushing through limitations which often turn into physical pain, the ability to overcome challenges (physical and psychological) and the commitment to effective training (Jones & Parker, 2017).

Various avenues within the domain of triathlons, including reflective learning (Faull, 2009); psychobiosocial states (Barnett, Cerin, Reaburn, & Hooper, 2012); motivation (de Franco Tobar, Meurer, & Benedetti, 2013; Lamont & Kennelly, 2012); mental preparation (Dolan, Houston, & Martin, 2011); deliberate practice (Baker, Cote, & Deakin, 2005); cognitive characteristics (Baker et al., 2005); and attributions (Hendy & Boyer, 1993) have been explored. The influence of mental toughness on race performance has also been explored within different levels of expertise (Jones & Parker, 2017; Marshall et al., 2015). However, an opportunity exists for the exploration of an athlete's subjective experience of an individualised mental toughness programme within the context of novelty of the sport to the athlete.

## **1.3 Problem Statement**

As the combined sporting-types encapsulated within a triathlon create a more complex endurance experience, a triathlete must develop and maintain a larger variety of physical skills required to sustain performance. This skill-development also applies to particular mental skills that are needed in order for a triathlete to effectively push through when the cost of this endurance sport progresses to physical pain and fatigue, ultimately requiring that the

triathlete's mental toughness and their subsequent ability to overcome physical and psychological challenges, whilst remaining committed to effective training, is honed.

#### **1.4 Research Aims**

The goal of this research was therefore to document the process of developing and implementing a psychoeducational mental toughness programme and to evaluate the programme through exploring the participant's subjective experience of such a programme. The aim of the research was to contribute to the existing literature on mental toughness programmes.

#### **1.5 Research Methodology**

In order to develop and implement an applicable and practical psychoeducational mental toughness programme for the participant, a single case study with a mixed method approach was selected (Creswell, Hanson, Plano Clark, & Morales, 2007; Willig, 2013) and the research was placed within in a pragmatic paradigm (Giacobbi, Poczwardowski, & Hager, 2005). Within this paradigm, the study adopted a technical eclectic theoretical orientation (Poczwardowski, Sherman, & Ravizza, 2004; Young, 1992).

The Integrative Model of Human Performance (Gardner & Moore, 2007) was utilised as the main organising theoretical framework for this research, and incorporated Anderson, Miles, Mahoney, & Robinson's (2002) model for the evaluation of applied sport psychology practice to provide a structure according to which the development and implementation of the psychoeducational programme could be documented, and to provide a backdrop to the evaluation of the programme's outcomes through exploring the participant's subjective experience. Methods and techniques found in Cognitive Behaviour Therapy (Beck, 1976; Westbrook et al., 2011), the Mindfulness-Acceptance-Commitment (MAC) approach (Gardner & Moore, 2004; 2007; 2017), and Dweck's (1986; 2006; 2009) theory of achievement motivation and mindsets were incorporated in order to develop a

psychoeducational mental toughness programme that would meet the participant's particular needs.

Data was collected through the triangulation of the Sports Mental Toughness Questionnaire (SMTQ) (Sheard et al., 2009) and semi-structured interviews. Data was analysed through the triangulation of the SMTQ's standardised scoring and thematic analysis.

## **1.6 Research Structure**

The research has been structured to provide a logical, coherent and in-depth discussion of applicable literature, the methodology used, the outcomes of the research, the limitations of the research and opportunities for future research. This information is provided in four main chapters. Firstly, chapter 2 contains a discussion on sport psychology; the psychology of performance; and mental toughness and its development. The relevant literature contained within this chapter underpins the development and implementation of the individualised psychoeducational programme. Chapter 3 describes and clarifies the methodology of the research, including the research aims; its design; its paradigmatic orientation; the selection of the participant; the methods of data collection and analysis used; the psychoeducational programme's development; the quality of the research; and ethical considerations. Chapter 4 discusses the results of the research in terms of the phases outlined by Anderson et al.'s (2002) model for the evaluation of applied sport psychology practice. Finally, chapter 5 concludes the research, in terms of its outcomes; its limitations; and the possible considerations for future research based on the outcomes.

## Chapter 2: Literature Review

### 2.1 Introduction

From its beginnings in the 1890s as an alliance between psychologists and physical educators who questioned how certain psychological principles apply to sport and training, sport psychology has shown exponential development and is now recognised as a contemporary professional field grounded in and supported by empirical evidence (Kornspan, 2012).

It has been suggested that sport psychology should form a branch of performance psychology, as performance enhancement is a particular area of focus, either achieved through the application of psychotherapeutic intervention, or through education and consultation (Barker, Neil, & Fletcher, 2016; Gould, 2002).

One heavily researched area within the field of sport-related psychological research is that of mental toughness. As a particular area of interest for sport psychologists, coaches and athletes, mental toughness is seen as one of the more important aspects required for attaining and sustaining peak performance (Gould & Dieffenbach, 2002; Jones & Parker, 2017; Loehr, 1982). There appears to be agreement between researchers that mental toughness is most clearly seen within times of adversity (Bell, Hardy, & Beattie, 2013; Clough & Strycharczyk, 2012; Gucciardi, 2017; Jones, Hanton, & Connaughton, 2002; Newland, Newton, Finch, Harbke, & Podlog, 2013), and it has been established that the constructs of motivation, confidence, attentional focus and coping with pressure are, albeit not exclusively, present within a mentally tough individual's psychological functioning (Jones & Moorhouse, 2007; Weinberg, 2013). Furthermore, mental toughness is seen as a construct that, although having a degree of heritability, can be developed over time (Horsburgh, Schermer, Veselka, & Vernon, 2008; Jones et al., 2002; Weinberg, 2013).

## 2.2 Sport Psychology

Since the 1990s, sport psychology has seen an exponential expansion on the variety of its topics of research and has seen the development of various approaches in its attempts to enhance its practical applicability (Edwards & Jooste, 2016; Mellalieu & Hanton, 2009).

Zaichowsky and Naylor (2005) provide an account of the large impact that the former Soviet Union in particular has had on the development of sport psychology. It became well-known that the former Soviet Union was focusing on enhancing the performance of their elite athletes by incorporating applied sport psychology in their sporting programmes, and their concurrent international sporting success encouraged other countries such as the United States of America, the former East Germany, Bulgaria, the former Czechoslovakia, many countries in Western Europe, and Cuba, to follow suit in broadening their scopes of sporting programmes beyond their already incorporated exercise physiology, biomechanics, and nutrition. Early development in sport psychology was however more academically oriented as a discipline than applied as a profession (Portenga, Aoyagi, & Cohen, 2017).

In other parts of the world such as Australia, New Zealand, Korea, and Japan, applied sport psychology has seen great advancement even though it started out on the same academic route.

Regardless of whether the focus has predominantly been academic or applied, most of the mentioned economically developed countries have seen the establishment of distinct training, registration and practice procedures for sport psychology practitioners (Aoyagi, Portenga, Poczwadowski, Cohen, & Statler, 2012; Barker et al., 2016; Zaichkowsky & Naylor, 2005). In contrast to this, some developing countries such as South Africa do not have clearly delineated training, registration and practice guidelines for sport psychology professionals (Edwards & Jooste, 2016). Within the South African context, sport psychology is not formally recognised and there is no registration category offered for sport psychologists with

the regulatory body of medical practitioners, the Health Professions Council of South Africa (HPCSA). Sport psychology services are provided within the context of the available HPCSA registration categories, for example, clinical, counselling, educational, research, and industrial and within the scope of sport sciences, for example, bio-kinetics, human movement, and sport or exercise science (Edwards & Barker, 2015; Edwards & Jooste, 2016; Health Professions Council of South Africa, 2017; Jooste, Kruger, Steyn, & Edwards, 2016; SASSEP, 2015).

When this lack of professional recognition in South Africa is understood within the context that sport psychology is still considered to be a developing and emerging discipline, and that even developed countries with their distinct training, registration and practice procedures are plagued by difficulties related to its professional identity, it becomes all the more important to clearly outline what the field of sport psychology entails within South Africa's unique milieu (Edwards & Jooste, 2016; Jooste et al., 2016; Portenga et al., 2017; Zaichkowsky & Naylor, 2005).

In an attempt to ameliorate this, the South African Society of Sport and Exercise Psychology (SASSEP) has recently been established (McInerny, 2015; SASSEP, 2015). However, a clearly defined scope of practice and professional identity particular to sport psychology in South Africa is lacking, creating a risk for professionals to misjudge the point of intervention required by the client, as their training and subsequent competencies will be limited to their current qualifications and registration (Arnold & Sarkar, 2015; Jooste et al., 2016; SASSEP, 2015).

A suggested starting point to resolve some of the identity crises currently associated with sport psychology, is a clear definition of the profession which will establish a shared understanding of the development, scope and limits of professional practice and will have direct bearing on the required training, supervision and competencies for sport psychologists

to ensure that sport psychology is ethical and applicable (Jooste et al., 2016; Portenga et al., 2017; Zaichkowsky & Naylor, 2005). Once this is established, theoretical and practical applications can be made relevant to the particular context in which it is researched and applied, as each context brings with it its own unique demands (Edwards & Jooste, 2016). In the South African context in particular, the relevance of sport psychology practice must be explored in order to ensure accessibility (Edwards & Steyn, 2008).

Generally, the application of sport psychology is known to encompass both performance enhancement and therapeutic intervention with athletes (Aoyagi et al., 2012). Zaichowsky and Naylor (2005) explore this general understanding as two sides of the same coin, with interventions (whether the goal is performance enhancement or therapeutic) as existing on a continuum from “supernormal” sport psychology to “abnormal” sport psychology. They explain the “supernormal” end of the spectrum as involving interventions such as the commonly known mental skills training and the “abnormal” end of the spectrum as involving therapeutic intervention which focuses on mental health difficulties (e.g. eating disorders, body image issues, substance abuse issues, overtraining, anxiety, depression and trauma, among others). In the latter, enhanced performance is understood a consequence and not as a particular goal.

Various authors expand on this general understanding and describe sport psychology as a field which is interested in identifying, understanding, measuring and developing the various mental constructs that interact with physical factors, aiming to produce optimum performance and enhance athletes’ experience of sport participation (Butler, 1997; Hays, 2012; Kornspan, 2012; Vealey, 1994).

The Association for Applied Sport Psychology (AASP) (2017) provides a more detailed definition of applied sport and exercise psychology as: “extending theory and research into the field to educate coaches, athletes, parents, exercisers, fitness professionals, and athletic



trainers about the psychological aspects of their sport or activity. A primary goal of professionals in applied sport and exercise psychology is to facilitate optimal involvement, performance, and enjoyment in sport and exercise.” (para. 1).

However, Portenga et al. (2017, p. 52), criticize this definition for lacking “precision and clarity” and suggest that applied sport psychology be defined as “the application of psychological principles of human performance in helping athletes consistently perform in the upper range of their capabilities and more thoroughly enjoy the sport performance process. Sport psychology practitioners are uniquely trained and specialized to engage in a broad range of activities including the identification, development, and execution of the mental and emotional knowledge, skills, and abilities required for excellence in athletic domains; the understanding, assessment, and managing of the psychological, cognitive, emotional, behavioural, and psychophysiological inhibitors of consistent, excellent performance; and the improvement of athletic contexts to facilitate more efficient development, consistent execution, and positive experiences in athletes.” Barker et al., (2016) appear to concur with such a definition of sport psychology and its inclusion of “supernormal” and “abnormal” psychological interventions as they apply to athletic performance.

In essence, the focus on performance within sporting contexts is what appears to stand out within all the mentioned attempts at setting the boundaries for the applied profession (Portenga et al., 2017). This performance component, combined with psychotherapy and coaching/consultation, forms the basis of what is known as “performance psychology”, of which sport psychology forms a particular branch (Aoyagi et al., 2012; Peterson, Brown, McCann, & Murphy, 2012; Portenga et al., 2017). Other branches of performance psychology include the performing arts, business, and professions that are considered high risk, such as the military (Halsen & Nichols, 2015; Hays, 2012; Portenga et al., 2017).

Moving sport psychology into the realm of performance psychology allows for practitioners to increase their knowledge base and applicability, as they are provided with an opportunity to explore performance outside of the context of sport (Barker et al., 2016; Gould, 2002).

### **2.3 The Psychology of Performance**

Portenga et al. (2017) provide an insightful discussion about the characteristics of performance. They define performance as the measurement of particular knowledge(s), skills and attributes (KSAs) against a particular standard. They further extend this definition of performance into characteristics of KSAs relevant to performance: that KSAs are relevant to particular contexts; that KSAs are developed over time; that KSAs are displayed during discrete events; that the display of KSAs during discrete events are evaluated according to a defined standard of success; and that KSAs are developed and executed in collaboration with significant others, such as coaches, competitors, teammates, and audiences.

At face value, a definition such as this may appear to allude that if an individual possesses the necessary combination of KSAs, this combination would result in peak performance. However, as Gardner and Moore (2007) assert, in addition to understanding athletic performance in terms of the effective contextual and standardised acquisition and display of KSAs, performance is also influenced by an individual's intrapersonal characteristics and extra-personal characteristics, such as the environmental stimuli they encounter and demands placed on them during performance.

This understanding of quality of performance as being dependent on the interaction between physical, psychological and social factors, or a biopsychosocial model, is a dominant modern paradigm in the literature on peak performance, as opposed to the historical view that innate talent predicts performance (Ericsson & Charness, 1994; Gardner & Moore, 2007; Harmison, 2006; Harmiston & Casto, 2012).

From this biopsychosocial perspective, Hardy, Jones, and Gould (1996) proposed a unifying model of psychological preparation for peak athletic performance in order to more accurately conceptualise and identify an athlete's needs. Their theoretical model positions athletes as multifaceted with varying psychological, physical, technical, and tactical characteristics. It further theorizes that these interrelating characteristics can be divided into psychological skills (e.g., imagery, goal-setting, etc.), foundational attributes (e.g., personality, motivation, belief-systems), adversity coping skills (e.g., emotion-focused coping, realistic stress appraisal, social support), and the environment (e.g., physical, social), which all act together as an interactive system which influences the ideal performance state.

In a research review done by Krane and Williams (2006), findings indicate a clear link between this ideal performance state, also known as an ideal mind/body state (the state in which an athlete is most likely to attain peak personal performance) and peak performance, regardless of idiosyncrasies existing within different athletes' experiences. This ideal mind/body state consists of various constructs such as self-confidence; being relaxed; feeling in control; the ability to concentrate; the ability to remain focused; a positive attitude; positive thoughts about performance; and determination and commitment.

Within this same review, they were able to define a set of psychological skills that can be honed through education and practice in order to encourage an ideal mind/body state and to aid in the management of adverse psychological processes. These include goal setting; imagery; competition and refocusing plans; automatic coping skills; thought control; arousal management; anxiety management; attention control; and refocusing skills.

## **2.4 Mental Toughness**

It is widely understood that practice makes perfect, and this premise of training to enhance performance also applies to the psychological skills needed in sport participation and it is considered not only possible, but valuable and necessary to hone these skills if one wants

to effectively fulfil one's performance potential (Dosil, 2006; Driskell, Copper, & Moran, 1994; Hardy et al., 1996; Orlick & Partington, 1988; Raab, 2016; Zaichkowsky & Naylor, 2005).

A concept that is considered a skill, or a “constellation of mental skills” (Loehr, 1982, p. 11) that can be learnt and that is understood as a requirement for peak performance, is mental toughness (Gould & Dieffenbach, 2002; Jones & Parker, 2017).

Research has lent support to the idea that mental toughness can be linked to increases in well-being (Stamp et al., 2015); increased perseverance (Gucciardi, Peeling, Ducker, & Dawson, 2016); that it is a relatively stable personality trait that is displayed across various contexts and is not just applicable to sporting performance (Gucciardi et al., 2014; Nicholls, Polman, Levy, & Backhouse, 2009); that it can increase with age (Suárez-Cadenas et al., 2016); that it is part of being skilled and successful in sporting endeavours (Kuan & Roy, 2007; Newland et al., 2013); that it increases performance (Bell et al 2013; Mahoney, Gucciardi, Ntoumanis, & Mallett, 2014); that it is associated with problem-focused coping (Kaiseler, Polman, & Nicholls, 2009); and that it assists athletes to make meaningful contributions in team sports (Newland et al., 2013).

Regardless of the sporting world's clear interest in mental toughness, it remains a concept that carries with it a lack of clarity and agreement between researchers about its definition and operationalisation (Jones et al., 2002). To illustrate, some contemporary definitions are tabulated in Table 1 below:

Table 1

*Contemporary Mental Toughness Definitions*

Author	Definition
Bell et al., p. 1	"[Mental toughness is] defined as the ability to achieve personal goals in the face of pressure from a wide range of different stressors."
Coulter, Mallett, & Gucciardi, 2010, p. 715	"Mental toughness is <i>the presence of some or the entire</i> collection of experientially developed and inherent values, attitudes, emotions, cognitions, <i>and behaviours</i> that influence the way in which an individual approaches, responds to, and appraises both negatively and positively construed pressures, challenges, and adversities to consistently achieve his or her goals."
Gucciardi, 2017, p. 18	"Specifically, MT can be defined as a state-like psychological resource that is purposeful, flexible, and efficient in nature for the enactment and maintenance of goal-directed pursuits."
Gucciardi, Gordon, & Dimmock, 2008, p. 278	"Mental toughness is a collection of values, attitudes, behaviours, and emotions that enable you to persevere and overcome any obstacle, adversity, or pressure experienced, but also to maintain concentration and motivation when things are going well to consistently achieve your goals."
Jones, 2008, p. 123	"People who become champions aren't necessarily more gifted than others; they're just masters at managing pressure, tackling goals, and driving themselves to stay ahead of the competition."
Jones et al., 2002, p. 209	"Mental toughness is having the natural or developed psychological edge that enables you to: generally, cope better than your opponents with the many demands (competition, training, and lifestyle) that sport places on a performer; [and] specifically, be more consistent and better than your opponents in remaining determined, focused, confident, and in control under pressure"
Madrigal, Hamill, & Gill, 2013, p. 63	"Mental toughness is the ability to be more consistent and better than one's opponent by remaining determined, focused, confident and in control when under pressure."

These definitions by no means form an exhaustive list, and there are many more definitions to be found in historical and contemporary mental toughness literature (cf. Connaughton & Hanton, 2009). In addition to the variety of definitions, each definition has linked to it a variety of attributes, for example, self-belief, focus, long-term goal setting as a source of motivation, environmental control, pushing yourself to the limit, performance regulation, handling pressure, handling failure, handling success, and an awareness and control of thoughts and feelings (Jones et al., 2002); seeing problems as opportunities, being deeply involved with tasks, managing physical pain and emotional pain as it relates to competitive contexts, intra – and interpersonal confidence, self-efficacy, internal validation, desire, motivation, performance – and lifestyle related focus, and consistency (Clough, Earle, & Sewell, 2002); and appropriate proactive and reactive responsiveness to athletic activities as they occur in their respective intensities, durations and frequencies (Gucciardi, 2017).

This apparent lack of conceptualisation creates a construct that easily becomes over-inclusive and readily absorbs any possible positive (i.e., useful) psychological skill, making its practicality and empirical underpinnings difficult to establish (Fawcett, 2011; Gucciardi, 2017). This also has an influence on the quantitative robustness of mental toughness inventories and further highlights the need for an agreed-upon conceptualisation of mental toughness (Gucciardi, 2012). A variety of general mental toughness inventories exist each based on their own theoretical underpinnings, (cf. Gucciardi, Mallett, Hanrahan & Gordon, 2011 for a review of various inventories). Examples include the Psychological Performance Inventory (PPI) (Loehr, 1986); the Psychological Performance Inventory-A (PPI-A) (Golby, Golby, & van Wersch, 2007); the Sports Mental Toughness Questionnaire (SMTQ) (Sheard, Golby, & van Wersch, 2009); the MTQ48 (Clough et al, 2002); and the Mental Toughness Inventory (MTI) (Middleton, Marsh, Martin, Richards, & Perry, 2004). Sport-specific inventories have also been developed, such as the Australian football Mental Toughness

Inventory (AfMTI) (Gucciardi et al., 2009) and the Cricket Mental Toughness Inventory (CMTI) (Gucciardi & Gordon, 2009).

The varied outcomes of mental toughness research are also testament to this lack of standardisation in terms of conceptualisation and consequent measurement. Some findings question the long-held assertion of mental toughness' usefulness as a tool to enhance performance, such as those from a study done by Nicholls et al. (2009). Outcomes did not indicate a positive relationship between mental toughness and athletic achievement, and authors noted that other factors, such as physical and technical skill level or other psychological factors predict achievement level more accurately. In a study done by Marshall et al. (2015), outcomes indicated that for novice triathletes, race performance was not positively influenced by mental toughness.

However, there appears to be some consensus about mental toughness as being a multifaceted construct that taps into cognitions, emotions, and behaviours (Gucciardi & Gordon, 2009) with key components being motivation; confidence; attentional focus; and coping with pressure (Jones & Moorhouse, 2007; Weinberg, 2013) and that the true test of an athlete's mental toughness occurs when stressors are present that may influence performance, such as challenging/adverse conditions, (Bell et al. 2013; Clough & Strycharczyk, 2012; Jones et al., 2002; Newland et al., 2013) or the requirement of sustained intensity, - duration and/or - frequency of activity (Gucciardi, 2017).

## **2.5 Developing Mental Toughness**

As the literature suggests that mental toughness plays an integral part in performance, the question is raised on how mental toughness and its components of motivation, confidence, attentional focus and coping with pressure, can be developed.

The "nature vs. nurture" debate is a recurring feature within psychology's quest towards understanding the human condition. It comes as no surprise that this theme also features

within the mental toughness literature, with mental toughness noted as sometimes being taught and other times caught (Clough & Strycharczyk, 2012; Crust, 2007; Weinberg, 2013).

Within the literature, studies such as a behavioural-genetic study of mental toughness and personality by Horsburgh et al. (2008) have lent support to the assertion of a combination of heritability (nature) and environment-interaction (nurture) as key determinants in the development of an individual's mental toughness.

Further support is apparently noted for this argument of biological predisposition in a study presented by Clough et al. (2010), noting higher volumes of grey-matter in the right frontal lobe of more mentally tough individuals. However, this correlation may not be evidence of a causal link. Research on neuroplasticity and the brain's ability to change its structure in response to the environment is gaining traction in the literature (cf. Shaffer, 2012 for a review of neuropsychological developments), as is the study of the influence of epigenetic alteration of gene expression during environment-interaction (Ehlert, Simon, & Moser, 2013).

Whether heritability, neuroplasticity, environmental influence or a combination of these are the driving force(s) behind the development of mental toughness, the current trend within the applied sport psychology literature is to take a top-down approach in applying psychological skills training programmes aimed only at enhancing performance (Anthony, Gucciardi, & Gordon, 2016; Barker et al., 2016).

Although there is clear value in training athletes to use mental/psychological skills such as imagery, relaxation, and goal-setting, among others (cf. Davidson & Edwards, 2014; Golby & Wood, 2016; Gucciardi et al., 2009; Sheard & Golby, 2006), there is untapped potential in applying lesser-used strength-based and mindset-changing interventions (Gucciardi & Gordon, 2011). Gordon (2012) further suggests that combining traditional programmes with strength-based and/or mindset-changing programmes may prove to be more



beneficial to appropriately develop mental toughness within general and specific sporting-environments. A necessity exists to develop personalised interventions that consider athlete-idiosyncratic factors, such as systemic mutual-dependency between person and environment (e.g., social, economic, political); the athlete's personal agency (e.g., responsibility-taking and particular goals); the athlete's developmental phase (e.g., sport-specific and personal); and other particular traits (e.g., personality, mental skills, physical capabilities) as they impact on mental toughness (Anthony et al., 2016; Crust & Clough, 2011; Thelwell, Such, Weston, Such, & Greenlees, 2010).

Psychoeducation may be an answer to these requirements. Lukens and McFarlane (2004) describe psychoeducation as one of the more effective of the evidence-based practices within clinical and community settings. Psychoeducational interventions are flexible; provide context-specific information and tools for managing related situations; combine psychotherapeutic and educational interventions; are holistic and competence-based approaches centred on health, collaboration, coping, and empowerment; are strengths-focused; and are present-focused. As a source of social support, sport psychologists can use psychoeducational interventions to directly influence an athlete's learning of the psychological lessons required to build mental toughness (Gould & Dieffenbach, 2002). Once developed, it is possible for psychoeducation and its focus on collaboration to assist with maintaining the continued fostering of skills that will assist an athlete to remain motivated, maintain their desire to succeed, and build healthy relationships (Connaughton, Wadey, Hanton, & Jones, 2008).

Regardless of the mode of delivery, mental toughness can be developed over time (Jones et al., 2002; Weinberg, 2013). However, it has been suggested that approaches rather aim to move away from standardised approaches to improve overall mental toughness, and rather focus on the idiosyncrasies of each athlete, developing the underlying constructs such as

motivation, self-confidence, attentional focus and coping with pressure individually (Anthony et al., 2016; Horsburgh et al., 2008).

### **2.5.1 Motivation**

What drives an individual to partake in and continue with sporting activities that are often accompanied by painful or uncomfortable physical, emotional and/or psychological sensations? Roberts, Treasure, and Conroy (2007) define these motivational processes by the psychological constructs that energise, direct and regulate achievement behaviour.

Jones et al., (2002) cite desire and a determination to succeed as two of these processes. According to Connaughton, Hanton, and Jones (2010) this desire and determination is based on a commitment towards reaching long-term goals. Fourie and Potgieter (2001) include both the former and the latter, as well as perseverance and responsibility to their understanding of the processes involved in motivation.

Various theories of motivation exist, and they are generally based on a continuum (Roberts et al., 2007). Each theory has an understanding of where motivation stems from – are we passive beings motivated by unconscious needs and drives (deterministic and mechanistic theories)? Are we motivated by needs and drives in interaction with context (organismic theories)? Or are we active and self-determined (cognitive theories)? Within sporting contexts, achievement goal theory, which falls towards the social-cognitive end of the continuum, has become a well-known theoretical orientation to understanding motivation in terms of achieving subjectively set goals. Meaning is attached to the attainment of these goals, and achievement is measured subjectively based on idiosyncratic (intrinsic or extrinsic) standards of achievement behaviour. This translates to showing competence in goal-related activities (Dweck & Molden, 2007; Gucciardi, 2010; Roberts et al, 2007). The meaning that an individual attaches to particular achievement activities are based on a set of achievement goals. This influences emotional, behavioural and cognitive responses to these activities, such

as displaying a mentally tough response by remaining motivated to continue with an activity in the face of adversity (Duda, 2007; Dweck, 1986; Nicholls, 1984).

Dweck's (1986; 2000) theory of achievement motivation and its understanding of achievement goals notes that each individual has a particular self-theory, or a theory of ability, which dictates the subjective meaning of competence.

Individuals are described as having an innate need to be competent, which over time creates a meaning-system attached to learning and self-esteem (Dweck & Leggett, 1988; Hong, Chiu, Dweck, Lin, & Wan, 1999). An individual can attach more value to either learning acquisition or to competence validation, dependent on their subjective understanding of the meaning of competence (Dweck & Molden, 2007). This is described as either valuing learning goals (incremental theory or "growth-mindset) or valuing performance goals (entity theory or "fixed-mindset"), with learning goals being directed towards competence acquisition, and performance goals being directed towards an external validation of competence (Dweck, 2006; Elliot & Dweck, 1988). These self-theories and their meaning systems foster particular strategies to attain competence, which have particular bearing on self-esteem, motivation and the attainment of goals, especially in adverse situations where mental toughness is called upon (Blackwell, Trzesniewski, & Dweck, 2007; Dweck, 2000).

Individuals who hold an incremental theory often believe that constructs such as intelligence are flexible and that skill can be learnt or fostered. They generally strive to show competence through learning and are willing to make mistakes in the pursuit of growth, without their self-esteem being negatively affected by "poor" or "unfavourable" outcomes. Incremental self-theorists understand that effort is required to improve and master skills and do not solely rely on innate talent. Thus, they make effort attributions. Often, incremental self-theorists are more likely to adopt what is known as a "mastery orientation": adopting learning goals, experiencing positive responses to setbacks, are more motivated, enjoy

activities more, and show an increase in performance (cf. Dweck, 2006; Dweck, 2009; Niiya, Crocker & Bartmess, 2004; Potgieter & Steyn, 2010; Robins & Pals, 2002; Zhao & Li, 2016). Inversely, those who adopt beliefs that state that ability is predetermined and stubborn to change, may strive to demonstrate competence through adopting performance goals in an attempt to obtain external validation of their abilities. When they are not able to demonstrate their competence and therefore do not receive praise on successful outcomes and they are more likely to experience what is known as a “helpless pattern”: negative affect in response to setbacks; avoidance strategies; poorer performance; often see failure as an indication of a lack of talent; and lower self-esteem. Thus, they make ability attributions (cf. Aditomo, 2015; Kamins & Dweck, 1999; MacNamara, Button, & Collins, 2010; Roberts & Papaioannou, 2014).

Research findings have indicated that incremental self-theories, or growth-mindsets, can be fostered within the domain of education, leading to more resilience among students (Yeager & Dweck, 2012).

Within the domain of sport, findings are also indicative that entity-theories/fixed-mindset can be altered (Spray, Wang, Biddle, Chatzisarantis, & Warburton, 2006); that a growth-mindset is associated with higher motivation, even when tasks appear uninteresting but are necessary for development (Jowett & Spray, 2013; MacNamara et al., 2010); that a growth-mindset can lead to more adaptive affective responses (Potgieter & Steyn, 2010); and that a growth-mindset may result in increased persistence and expectations of success that can be maintained over time and applied across various contexts (Rasclé et al., 2015).

### **2.5.2 Self-Confidence**

The theory of ability that an individual holds also has a noted influence on one's confidence in one's ability to repeatedly achieve success (Dweck & Molden, 2007; Niiya et al., 2004; Nussbaum & Dweck, 2008; Robins & Pals, 2002; Thelwell & Maynard, 2003).

Self-confidence is defined as the belief that an individual holds about their ability to achieve a pre-set goal; and the ability to reveal competence, attitude and self-efficacy (Beauchamp, Jackson, & Morton, 2012; Fourie & Potgieter, 2001; Weinberg, 2013). This belief in one's ability and one's ability to make things happen can enable an individual to take calculated risks; respond positively to criticism; and control affective functioning, thereby increasing the likelihood of successful outcomes (Jones & Moorhouse, 2007).

Those who are not able to reveal competence in activities such as a chosen sport may either adopt an incremental - or an entity-theory in response to failure (Dweck & Molden, 2007; Robins & Pals, 2002). Research by Niiya et al. (2004) examined how learning orientations influenced contingent self-worth when faced with failure in academic settings. Results demonstrated that individuals who adopt an incremental theory and its resultant learning goals, effort attributions and mastery-oriented responses, experience increased self-esteem and contingent self-worth. However, individuals who adopted an entity-theory and its subsequent performance goals, ability attributions and helpless pattern of responsiveness, experienced harm to their self-esteem and lower contingent self-worth. When individuals believe in fixed traits and are oriented toward competence validation, negative outcomes speak to a lack of ability, which may harm self-esteem, and can lead to defensiveness. When, instead, people believe in developable traits and are oriented toward competence acquisition, negative outcomes speak to the effort displayed and the strategy employed, and leads to self-esteem repair (Dweck & Molden, 2007; Nussbaum & Dweck, 2008).

Other sequelae associated with a growth-mindset have already been extrapolated to the domain of sport (cf. Jowett & Spray, 2013; Potgieter & Steyn, 2010; Rasclé et al., 2015; Spray et al., 2006). Furthermore, a mastery-oriented environment has also been noted as having a positive influence on self-confidence (Connaughton et al., 2008). Taking this into

consideration, it is possible to infer that sport-contingent self-worth and self-esteem may be positively influenced by priming individuals with a growth-mindset.

Also related to an individual's confidence and the mindset that they adopt, is the construct of perfectionism. Perfectionism does not only represent our common-sense understanding of a negative, disordered or dysfunctional characteristic (Flett & Hewitt, 2005). Perfectionism is known to be a multidimensional phenomenon with many facets, which describe two basic kinds of perfectionism: healthy perfectionism, or perfectionistic strivings, which include striving for perfection and setting high standards of performance; and unhealthy perfectionism, or perfectionistic concerns, which include concerns over making mistakes, fear of negative evaluation by others, feelings of discrepancy between one's expectations and performance, and negative reactions to imperfection (Stoeber, 2011; Stoeber & Otto, 2006).

In research done by Chan (2012), participants were divided into three groups: non-perfectionists, healthy perfectionists and unhealthy perfectionists. Participants were asked to complete measures related to mindset and well-being. Healthy perfectionism was positively correlated with a growth-mindset, whereas unhealthy perfectionism was positively correlated with a fixed-mindset. As it has been shown that mindsets can be taught (Spray et al., 2006), fostering a growth-mindset in individuals who display traits of unhealthy perfectionism may serve as an intervention to mediate the unhelpful consequences of unhealthy perfectionism.

Individuals who base their sense of self-esteem on the ability to display competence in a particular activity show more traits related to negative perfectionism, leading to higher levels of activity-related anxiety, concern over mistakes, fear of failure, sensitivity to criticism, decreased self-efficacy and lower self-confidence, whereas healthy perfectionists appear to experience higher levels of self-confidence, lower levels of activity-related anxiety, expectations of successful outcomes, respond more positively to criticism, show increased self-efficacy, and may display increased performance (Gotwals, Dunn, & Wayment, 2003;

Hamidi & Besharat, 2010; Stoeber, 2011; Stoeber, Hutchfield, & Wood, 2008; Stoeber, Otto, Pescheck, Becker, & Stoll, 2007).

Although perfectionism appears to not yet be a widely researched area related to mental toughness, research done by Suárez-Cadenas et al. (2016), indicate a positive association between mental toughness and perfectionistic strivings, and a negative association between mental toughness and perfectionistic concerns. This may indicate that unhealthy perfectionism may have a negative impact on overall mental toughness and it stands to reason that interventions should be adapted for individuals who display traits of perfectionistic concerns. Protective strategies that may prove useful when working with individuals who experience perfectionistic concerns, include: experiencing success; developing adaptive coping strategies (e.g. proactive, task-oriented approaches); fostering flexibility; setting realistic goals; educating on relaxation techniques; reducing concerns over mistakes; and promoting the management of expectations through encouraging appropriate physical preparation (Connaughton et al., 2008; Flett & Hewitt, 2005; Sagar & Stoeber, 2009; Sellars, Evans, & Thomas, 2016).

### **2.5.3 Attentional Focus**

Athletes and coaches alike refer to attentional focus as imperative to performance success (Gucciardi et al., 2008; Jones et al., 2002; Weinberg, Butt, & Culp, 2011; Woods, 1998). Weinberg (2013) refers to attentional focus as the ability to maintain focused attention on a particular task, regardless of distractions from the internal or external environment. Jones and Moorhouse (2007) note that mentally tough athletes are able to focus and sustain their attention by being mindful, focusing on the particular processes of the task, and focusing only on things that are within their control. Sheard (2010) likens this to Constancy: an athlete's ability to show attitude, remain determined, take responsibility, and apply focus and concentration to the task at hand.

According to attentional control theory, high anxiety, whether state – or trait related, is one emotional experience that may divert cognitive attention away from performance-relevant stimuli, by either focusing on threat-related stimuli, such as worry, or shifting the focus to non-threatening, task-irrelevant stimuli, for example, daydreaming (Eysenck, Derakshan, Santos, & Calvo, 2007; Gardner & Moore, 2007; Jones., 2003). High levels of anxiety have been noted to influence concentration and disrupt performance (Allen, Jones, McCarthy, Sheehan-Mansfield, & Sheffield, 2013), as it is an emotional experience that is difficult to ignore (Vast, Young, & Thomas, 2010).

Generally, interventions used to assist athletes with controlling unhelpful emotional and cognitive stimuli that threaten attentional control include goal-setting; relaxation; imagery; arousal optimisation (cf. Hanin, 1995; 2000); focusing attention on external cues such as technique, pacing, and race plans; negative thought-stopping; and self-talk (Brick, MacIntyre, & Campbell, 2014; Coulter et al., 2010; Thelwell & Greenlees, 2003). Strategies such as self-talk are empirically grounded and can easily be taught, making it popular among sport psychology professionals (Blanchfield, Hardy, De Morree, Staiano, & Marcora, 2014; Hamilton, Scott, & MacDougall, 2007; Thelwell & Greenlees, 2003; Weinberg, 2013).

Conversely, the Mindfulness-Acceptance-Commitment (MAC) approach to performance enhancement developed by Gardner and Moore (2007; 2017) is aimed at promoting an individual's acceptance of unhelpful internal stimuli (e.g. thoughts such as self-criticism, emotions such as anxiety, and physical sensations such as pain) whilst shifting the individual's focus to appropriate behavioural responses. The MAC approach postulates that attempts to control experiences may lead to the over-utilisation of possibly limited cognitive resources, increasing the likelihood of losing focus. The MAC approach makes a distinction between rule-governed and values-directed behaviours, with rule-governed behaviours resulting from internal rules that aim to reduce uncomfortable affect associated with



emotional states such as anger, anxiety and frustration, and value-directed behaviours being those contextually appropriate actions, regardless of how they are experienced by the individual. As the name suggests, the approach aims to develop mindfulness, acceptance and commitment through fostering attention without judgement to the here-and-now, normalising any intrapersonal experiences whilst nurturing the willingness (as opposed to the experiential avoidance) to have these experiences, and shifting the focus to factors that are performance relevant. As a strength-based approach, it aims to enhance appropriate behaviours needed within all performance contexts, as well as personal contexts, since individuals are seen as holistic beings made up of more than just performance identities.

In a study done by Chambers, Lo, and Allen (2008), novice meditators who underwent a 10-day intensive mindfulness-meditation retreat showed significant improvements in, amongst others, performance measures of working memory and sustained attention. Shorter-term research of mindfulness have also shown promising effects on attentional control and stress-reduction, as evident from a study done by Tang et al. (2007), where a 5-day mindfulness-meditation training programme indicated significantly better attention and control of stress than relaxation training. Brief interventions also appear to assist with the management of closed-skill performance, flow state and state anxiety, as evident in the outcomes of a study done by Perry, Ross, Weinstock, and Weaver (2017) where participants received brief, one-session mindfulness training between putting sessions.

It appears that the ability to remove attentional focus from past events (e.g., past failures) and future expectations (e.g., anxiety-provoking anticipation) frees the cognitive resources required for task-specific attending. This, according to research done by Kee and Wang (2008) results in an enhanced ability to adopt relevant mental skills and enter a flow-state, ultimately challenging practitioners to view traditional mental-skills training and mindfulness-meditation as two sides of the same coin, as those athletes trained to be mindful

can engage more readily in behaviours that display novelty seeking, flexibility and engagement, consequently enhancing the mental skills required for heightened attentional - and emotional control (e.g., goal setting, imagery and self-talk strategies).

This link between mindfulness and flow has gained traction in the literature (Gardner & Moore, 2004; Jackson, 2012). Flow is described as an apparently “effortless absorption in a task” (Nakamura & Csikszentmihalyi, 2014, p. 91) where heightened enjoyment and task-engagement co-exist and where skills and abilities are used at full capacity to meet a task’s demands, without demands outweighing capabilities, thus creating an opportunity for action (Csikszentmihalyi, 1975; Jackson & Csikszentmihalyi, 1999; Nakamura & Csikszentmihalyi, 2014). Once achieved, a state of flow brings with it a subjective experience characterised by “intense and focused concentration on what one is doing in the present moment; merging of action and awareness; loss of reflective self-consciousness (i.e., loss of awareness of oneself as a social actor); a sense that one can control one’s actions; that is, a sense that one can in principle deal with the situation because one knows how to respond to whatever happens next; distortion of temporal experience (typically, a sense that time has passed faster than normal); experience of the activity as intrinsically rewarding, such that often the end goal is just an excuse for the process” (Nakamura & Csikszentmihalyi, 2014, p. 90).

#### **2.5.4 Coping with Pressure**

Closely related to being able to attend effectively to the task at hand through managing cognitive, behavioural and emotional responsiveness to uncomfortable stimuli, is coping with pressure. Coping with pressure refers to an athlete’s ability to reveal her/his ability to cope with stressors by remaining composed, being accepting, controlling emotion and being flexible in the face of undesirable events, ultimately lessening the impact of stressors on performance outcomes (Fourie & Potgieter, 2001; Gucciardi et al., 2008; Jones et al., 2002; Jones & Moorhouse, 2007). Sheard (2010) likens this to the construct of Control: the ability

to control emotional responsiveness to stimuli in the environment and having personal agency.

Gardner and Moore (2017, p. 4) position this sense of control within the scope of an individual's "dispositional characteristics" or schematic representations: An individual's schematic representations are systems of meaning that are created through idiosyncratic biopsychosocial interaction with the environment. As a process, it can be conceptualised as a temporally-developed template according to which an individual perceives, evaluates, makes meaning, and responds to environmental triggers. Each individual also has a set of heritable traits, which exerts further influence on schematic representations.

In answer to environmental triggers, an individual will display agency by consciously adopting a particular coping style to manage possibly distressing environmental, emotional, cognitive and behavioural experiences (Compas, Connor-Smith, Saltzman, Thomsen, & Wadsworth, 2001). Lazarus (1991) described this process as consisting of primary and secondary appraisal, where primary appraisal takes place in the form of assessing a stimulus and establishing its meaning for an individual's well-being. Stimuli are assessed based on how goals relate to well-being in terms of their relevance (associated risk), stimulus congruence -or incongruence (helpful or harmful), and content (possible goal outcomes). As such, some environmental stimuli may bring about more emotional valence for particular individuals (Connor-Smith & Flachsbart, 2007). Secondary appraisal, according to Lazarus (1991), involves the selection of particular coping strategies in the event that a stimulus is appraised as threatening. Coping strategies are assessed based on personal responsibility (either blame/credit), ability to cope, and future expectations. Coping styles can then be chosen based on primary and secondary appraisal. Lazarus and Folkman (1984) referred to these coping styles as either problem-focused (i.e., focusing on managing the threatening stimulus through activities such as planning or goal-setting) or emotion-focused (i.e.,

focusing on regulating emotional experience through behaviours such as withdrawal or self-critical cognitions). These styles appear to be congruent with the styles described by authors such as Kamins and Dweck (1999) as the mastery or helpless responses to perceived setbacks.

Research has shown positive correlates between mental toughness and problem-focused coping behaviour (Kaiseler et al., 2009; Nicholls, Polman, Levy, & Backhouse, 2008), and has also shown no correlation between mental toughness and a predisposition to experiencing lower emotional intensity, lending support to the postulation that the strategy used to manage emotional intensity may in fact be what enhances coping ability (Crust, 2009).

In order to assist an athlete with fostering problem-focused coping strategies, interventions can include cognitive restructuring (Jones, 2003; Thomas, Maynard, & Hanton, 2007). Cognitive restructuring utilises tools such as daily thought records to identify negative automatic thoughts (NATs), dysfunctional assumptions and cognitive biases, and then challenges these unhelpful cognitions with more rational statements (Westbrook, Kennerly, & Kirk, 2011).

## **2.6 Conclusion**

Performance related research, in particular research in the domain of exercise and sport, is an exponentially expanding area of interest for psychology practitioners. The psychological skills associated with mental toughness are postulated as being integral for attaining and sustaining good performance, whilst the historical view of relying on physical talent is becoming increasingly outdated (Dweck, 2009; Ericsson & Charness, 1994; Gardner & Moore, 2007; Harmison, 2006; Harmiston & Casto, 2012). Just like physical skills can be enhanced through practice, mental skills can be developed over time, and this may be the defining factor in repeating not only good performance, but great performance (Jones et al., 2002; Thelwell & Maynard, 2003).

Motivation, self-confidence, attentional focus and coping with pressure have all been researched independently and bring with them a wealth of opportunity for future research as practitioners strive to better understand the human condition in sporting contexts. Within the context of mental toughness and endurance sport, however, they form what is known the four pillars of mental toughness (Jones & Moorhouse, 2007). Combining standardised assessments such as the SMTQ (Sheard et al., 2009) and modes of programme-delivery such as psychoeducation (Lukens & McFarlane, 2004), can create a valuable opportunity to develop applied programmes that are applicable to the idiosyncratic contexts of individual athletes and may improve the accessibility of applied sport psychology programmes in the South African context.

Notwithstanding the wealth of research available within the domain of triathlons (cf. Chapter 1), an opportunity exists for the exploration of mental toughness development within the context of novelty of the sport to the athlete. Furthermore, the researcher has particular interest in the research study, as she is an athlete who takes part in endurance events in which peak athletic performance is influenced by factors such as mental toughness. As the researcher takes a keen interest in this particular case study, an opportunity is created for the possibility of internal evaluation throughout the processes of data collection, analysis, implementation, and assessment of effectiveness at the conclusion. As the researcher has a sense of ownership, similar values and priorities and knowledge of the culture, subtleties and individual characteristics of the research context, ample opportunity is created through a case study design for documenting effectiveness and identifying opportunities for improvement (Anderson et al., 2002).

## **Chapter 3: Methodology**

### **3.1 Research Aims**

The goal of this research was to document the process of developing and implementing a psychoeducational mental toughness programme and to evaluate the programme through exploring the participant's subjective experience of such a programme. The aim of the research was to contribute to the existing literature on mental toughness programmes.

### **3.2 Research Design**

In order to meet this study's goal, a single case study with a mixed method approach was selected (Creswell, Hanson, Plano Clark, & Morales, 2007; Willig, 2013). Case study approaches have been viewed as strong approaches to foster an understanding of applied sport psychology interventions (Anderson et al., 2002; Streat, 1998). An in-depth study of a single case can offer valuable insights that can either expand current knowledge or assist in the formulation of new theories (Edwards, 1998; Gravetter & Forzano, 2012). In addition, mixed method approaches offer a rich exploration of the available qualitative and quantitative data, and are able to provide useful and comprehensive research results through benefiting from on the strengths of both approaches (Baxter & Jack, 2008; Johnson & Onwuegbuzie, 2004; Ostund, Kidd, Wengstrom, & Rowa-Dewar, 2011; Streat, 1998; Yin, 2009). Mixed method approaches are not to be confused with multimethod approaches. Morse (2003) describes a mixed method approach as incorporating qualitative and quantitative approaches, with a dominant research method being supplemented by the secondary method which serves to provide additional information whereas in a multimethod approach, two distinct and equivalent methods are applied separately and triangulated at the conclusion of the research. This case study was nonexperimental and did not attempt to prove correlation or causation, rather seeking to provide quantitative support to an in-depth qualitative understanding of the case in this research, that is, the development and implementation of a psychoeducational

mental toughness programme and the participant's experience of such a programme, and to question whether such an approach has applicability within the context of applied sport psychology practice (Anderson et al., 2002; Creswell et al., 2007). As such, a qualitative dominant mixed methods research approach was adopted to ensure that the case could be explored from a theoretical and applied perspective (Johnson & Onwuegbuzie, 2004; Johnson, Onwuegbuzie, & Turner, 2007).

### **3.3 Paradigmatic Orientation**

This research occurred in a pragmatic paradigm (Giacobbi et al., 2005) in order to develop and implement an applicable and practical psychoeducational mental toughness programme for the participant, through fitting together the data available from both the quantitative and qualitative methods used (Johnson & Onwuegbuzie, 2004). Pragmatic approaches hold subjective reality and its influence on the external world in high regard, but views reality and knowledge-production as being both constructed and based on objective truth (Giacobbi et al., 2005). A pragmatic approach considers the consequences of research, and has value in its consideration of the most appropriate method to use to answer research questions or meet research goals, whilst not compromising on rigour or quality (Feilzer, 2009; Johnson et al., 2007). Within this paradigm, the study adopted a technical eclectic theoretical orientation (Poczwardowski, Sherman, & Ravizza, 2004; Young, 1992). An eclectic approach and its synthesised, logical use of a whole range of techniques and approaches (Kerr, 1993; Poczwardowski, Sherman, & Henschen, 1998) offers an opportunity to meet the aims of applied sport psychology, summarised by (Anderson et al., 2002, p. 446) as "improving performance, psychological skills, athlete well-being and the quality of the sport experience". This theoretical flexibility is neither a-theoretical nor haphazard, but instead stays true to the researcher's guiding practice philosophy, whilst ensuring that participants' particular needs are met (Jooste et al., 2016; Poczwardowski et al., 2004).

The Integrative Model of Human Performance (Gardner & Moore, 2007) was utilised as the main organising theoretical framework for this research. This framework's biopsychosocial understanding of performance allowed for the athlete's idiosyncrasies to be understood as existing within the dynamic interaction between his instrumental competencies; environmental stimuli and performance demands; his dispositional characteristics; and his behavioural self-regulation. The eclectic orientation of this research saw to the incorporation of Anderson et al.'s (2002) model for the evaluation of applied sport psychology practice, to provide a structure according to which the development and implementation of the psychoeducational programme could be documented, and to provide a backdrop to the evaluation of the programme's outcomes through exploring the participant's subjective experience. Methods and techniques found in Cognitive Behaviour Therapy (Beck, 1976; Westbrook et al., 2011), the Mindfulness-Acceptance-Commitment (MAC) approach (Gardner & Moore, 2004; 2007; 2017), and Dweck's (1986; 2006; 2009) theory of achievement motivation and mindsets were incorporated in order to develop a psychoeducational mental toughness programme that would meet the participant's particular needs. Data was collected through the triangulation of the Sports Mental Toughness Questionnaire (SMTQ) (Sheard et al., 2009) and semi-structured interviews. Data was analysed through the triangulation of the SMTQ's standardised scoring and thematic analysis.

With this in mind, the following sections discuss the Integrative Model of Human Performance (Gardner & Moore, 2007) as it pertains to the dominant theoretical orientation adopted by this research, and Anderson et al.'s (2002) model as it forms a structural backdrop for the research.



### **3.3.1 Integrative Model of Human Performance**

The possible factors influencing the participant's mental toughness was viewed from the vantage point of the Integrative Model of Human Performance (Gardner & Moore, 2007). This biopsychosocial understanding sees human performance as resulting from the complex interaction between an individual's instrumental competencies; environmental stimuli and performance demands; dispositional characteristics; and behavioural self-regulation (cf. Chapter 2; Gardner & Moore, 2007).

An individual's instrumental competencies refer to his/her specific collection of physiological and/or cognitive skills/abilities. These skills/abilities are idiosyncratic to the individual and are somewhat synonymous to what Portenga et al., (2017) describe as particular knowledge(s), skills and attributes (KSAs) required for optimal performance. It is important to consider these skills/abilities as part and parcel to managing the participant's expectations. As an example, it would remove some performance pressure from a novice triathlete when consideration is given to his current skills and abilities.

Environmental stimuli and performance demands refer to the totality of the environments in which the individual exists, and considers possible demands placed on the individual from these environments. As an example, demands placed on a semi-professional athlete without a sponsor may include working full-time and studying part-time, whilst attempting to keep up with a rigorous training schedule.

An individual's dispositional characteristics refers to his/her intra – and interpersonal style of relating, otherwise known as their “schematic representations”, and includes temperament (cf. Chapter 2). This influences how an individual will perceive, evaluate, make meaning, and respond to environmental triggers. An example of this would be an unexpected change in the racing environment, and what this would mean to an individual, influencing their response.

Finally, behavioural self-regulation refers to how an individual deals with their cognitive, physiological or emotional experiences and whether they are able to regulate their responses in an optimal way. An example of this would be an individual's cognitive and emotional responses to uncomfortable physiological sensations associated with endurance activities, and whether they would cry, become irritable, quit or push through.

### **3.3.2 Model for the Evaluation of Applied Sport Psychology Practice**

Anderson et al.'s model (2002) consists of seven phases and attempts to meet the aims of applied sport psychology practice. They assert that evaluation of applied practice generates comprehensive information about interventions, establishes effectiveness, facilitates improvement, and ensures that practitioners remain accountable to themselves, to participant(s) and to the profession. They further postulate that the demands of applied intervention calls for evaluation to exist in a nonexperimental fashion – where the aim is not to control for confounding variables and prove a cause and effect relationship, but to ensure the participant's individual needs are met. Although this model would therefore typically be used for the evaluation of applied sport psychology practice, its inclusion within this research project provided a robust structure, within which the development and implementation of the psychoeducational programme could be documented, and the participant's subjective experience of the programme could be evaluated. The model's phases are outlined as follows:

1. Orientation to the process, in which the purpose of the intervention is clarified, the objectives are identified and the participant's commitment is determined;
2. Sports analysis, in which information is gathered on a particular sport's psychological, biomechanical, physiological and knowledge requirements. This phase fell outside the scope of this research, and would only have been included, if it had been necessary to assist the participant to manage his expectations relative to his current capabilities;

3. Individual/team assessment, in which the participant's psychological characteristics are evaluated in terms of his well-being, skill, knowledge, and attitude. Possible previous engagement with interventions is also explored, to determine any beneficial/disadvantageous outcomes;
4. Conceptualisation and clarification of aims, in which the goals and aims of the intervention are clarified and agreed upon;
5. Psychological skills training/implementation, in which the intervention is administered. In this phase, the quality of the intervention is evaluated before implementation, the participant's response (positive/negative) to the intervention is evaluated during implementation, and the participant's response evaluated post-implementation, based on outcomes such as adherence to/maintenance of any principles of the intervention and any noted changes in performance;
6. End of intervention, in which an overall evaluation is done of the intervention and its outcomes for the participant;
7. Follow up, in which another evaluation is done on the intervention after a pre-decided amount of time has passed, to evaluate effectiveness over time. Due to time constraints and this project being undertaken as partial requirement of a Masters Degree in Counselling Psychology, this phase does not fall within the scope of the research.

The model was used to inform the structure of Chapter 4, outlining the outcomes of phases 1, 3, 4, 5, and 6, and is presented as Figure C.1 in Appendix C.

### **3.4 Participant**

The participant was selected using the non-probability method of convenience sampling. Attaining the research goal was dependent on the in-depth study of a single case in order to contribute to the existing literature of mental toughness interventions in the applied sport psychology context. Therefore, the sampling method did not call for the sample to be

representative of a population in order for results to be generalised, and as such did not call for the statistical principle of randomness (Gravetter & Forzano, 2012). However, the information collected through this case study may provide a valuable starting point to the generation of new considerations within applied sport psychology, such as the exploration of the utility of strength-based approaches for mental toughness enhancement, or the exploration of psychoeducation as a possibly valuable mode of delivery for sport psychology interventions in the South African context. Convenience sampling characteristically sees samples being selected on the basis of their ease of access (Gravetter & Forzano, 2012). In this case, the participant had made himself available to Rhodes University through his request for mental training in order to reach “top level” performance.

Phase 1 of this research commenced after ethical approval was received from the Research Projects and Ethics Review Committee (RPERC) of the Rhodes University psychology department, and the Humanities Higher Degrees Committee at Rhodes University. Phase 1 included informing the participant that the research would be conducted by a student researcher under supervision, clarifying the participant’s particular concerns and related requirements, explaining the nature and process of the research, informing the participant that the programme would be a tentative intervention and that he may not experience any increase in performance due to the implementation thereof, and discussing and managing the expectations of possible outcomes. Once all relevant information on the research process and requirements of the participant were discussed with the participant, ethical considerations related to the commencement of the research (including consent to participate, recording tools to be used, transcription details, the right to confidentiality, and the right to withdraw) were negotiated and signed with the participant before recording of the session commenced. A copy of the research proposal was provided to the participant, offering him an opportunity to reflect and bring any possible concerns to the attention of the

researcher. The participant was also provided with information related to psychological services available in the event that he experienced any consequences related to the research. In total, there were five contact sessions between the researcher and participant. The first contact session oriented the participant to the research process (phase 1) and also started the individual assessment/data collection process (phase 3). The second contact session completed the individual assessment/data collection process (phase 3). Conceptualisation and clarification of aims occurred in the third contact session (phase 4). The psychoeducational mental toughness programme was administered in the fourth contact session (phase 5), and the final data collection occurred during the fifth contact session (phase 6).

As data analysis was based solely on the outcomes of the triangulation of the Sports Mental Toughness Questionnaire (SMTQ) (Sheard et al., 2009) and semi-structured interviews, the participant was not recorded during the phase 1, phase 4 or phase 5 of the research.

### **3.5 Data Collection**

Data collection occurred in phases 3 and 6 of the research. Data was triangulated (Denzin, 1978) during the data collection and analysis phases, enabling the combination of the methodologies of both the SMTQ (Sheard et al., 2009) and semi-structured interviews (Willig, 2013). The research did not constitute a pre-test post-test experimental design, as the purpose of the triangulation was to produce theoretical propositions for this particular case (Ostund et al., 2011; Willig, 2013). The participant completed the SMTQ in approximately minutes on both occasions of administration. The duration of each individual semi-structured interview was approximately two hours. The semi-structured interviews were tape-recorded with consent from the participant, and were transcribed by the researcher. The permission and release form used to obtain written consent on the use of tape recording and the conditions of transcription is available in Appendix B.

In phases 3 and 6, the SMTQ was administered and scored using the standardised scoring available for the measure (Sheard M., personal communication, 13 April, 2010). In both phases 3 and 6, scores for the subscales were collated, providing information on strengths/weaknesses in the participant's mental toughness profile. The subscale-outcomes and their correlating items highlighted particular themes, which were included in a semi-structured interview schedule to gather an in-depth understanding of the participant's experience. Thematic analysis was used to analyse the data collected from the semi-structured interview.

Data collected from the triangulation of SMTQ and semi-structured interview informed a conceptualisation and the subsequent development of the psychoeducational mental toughness programme in phase 4. The programme was implemented in phase 5.

In phase 6, the participant's experience of the programme was explored through another triangulation of the SMTQ and a semi-structured interview. In the following sections, the SMTQ and semi-structured interviews are discussed.

### **3.5.1 Sports Mental Toughness Questionnaire (SMTQ)**

The SMTQ measures confidence, constancy, control, positive energy and negative energy (Sheard et al., 2009). As a psychometric measure, the questionnaire has shown adequate internal reliability (Chronbach's  $\alpha > .72$ ). A principal axis factorial analysis produced a 14-item, three factor solution (confidence, constancy, and control), which explained 40.7% of the variance and shows the measure's content validity. CFA established factorial validity for this three factor solution. Discriminative power is indicated by correlations between the measure and hypothesised correlates such as hardiness,  $r = .14$  to  $.33$ ; optimism,  $r = .23$  to  $.38$ ; and positive and negative affect,  $r = .12$  to  $.49$ . The measure utilises a 4-point Likert scale, measuring an individual's experience based on responses that can be labelled "not at all true", "a little true", "mostly true" or "very true". The measure can be applied to a variety of

sports (Sheard et al., 2009) and its concise design is useful in discriminating between varying levels of overall mental toughness (Crust & Swann, 2011). Recently, research has also brought the SMTQ into the South African context. In a study done by Cowden, Meyer-Weitz and Asante (2016), 351 South African tennis players of varying skill-levels participated in an investigation into the relationship between mental toughness and resilience. The use of the SMTQ in combination with other standardised measures was able to establish preliminary support for a relationship between mental toughness and resilience, and confirm the known negative correlation between mental toughness and stress.

There are some criticisms levelled against the use of the SMTQ. In particular its length, the relatively poor internal consistency for its constancy subscale, and some questions about content validity, has been raised as concerns to be considered when using the measure (Cowden, 2017; Crust & Swann, 2011; Gucciardi et al., 2011). As this research necessitated the identification of areas of concern which would be further explored in semi-structured interviews, and as a tool was required to establish whether the participant felt that that he had improved after the implementation of a psychoeducational mental toughness programme, the use of the SMTQ proved to be a useful measure to meet the research's goals.

The SMTQ was administered during phase 3 and phase 6 of the research. Qualitative descriptors were used based on norms provided for the SMTQ (Sheard et al., 2009). The confidence subscale measures self-efficacy (or the belief in the ability to achieve goals and be better than opponents) and its six items are all worded positively, providing a score congruent with an individual's overall sense of confidence. The constancy subscale measures determination, sense of personal responsibility, an unyielding attitude, and the ability to concentrate. Two of its four items are worded positively and two are worded negatively, providing a score congruent with an individual's overall sense of constancy. Finally, the control subscale measures whether an individual perceives that they are influential and

whether they can make things happen for themselves, with four negatively worded items measuring an individual's sense of "lack of" control more so than an individual's actual sense of control over situations. Permission to use the SMTQ had been provided well in advance to the commencement of this research.

### **3.5.2 Semi-Structured Interviews**

Semi-structured interviewing is one of the more common techniques of data collection, due to its compatibility with a wide variety of analysis techniques and its accessibility as a tool to gain insight into a participant's thoughts on a particular construct (Willig, 2013). Semi-structured interviews utilise carefully constructed interview agendas to ensure that the discussion between researcher and participant remains aimed at providing information relevant to the research question or research goal, whilst offering the participant the freedom to elaborate on particular questions (DiCicco-Bloom & Crabtree, 2006). Additional questions can also be formulated during the interview process to provide further exploration of the chosen topic of study, but it is wise to start with more general questions and move to more private questions once a sense of rapport has been established (Willig, 2013).

A semi-structured interview consists of the "formal" aspects of recording data with the use of a recording device such as a tape-recorder or video-recorder; as well as the "informal" aspects such as creating a sense of rapport and a comfortable, safe, private, and quiet environment (King & Horrocks, 2010). As an interview can elicit personal responses to questions, it is imperative that ethical concerns are considered appropriately. In particular, this includes the participant's agency and minimising the risk of harm as much as possible (Willig, 2013).

It is also necessary to consider the method that will be used to transcribe the data (Willig, 2013). Based on what the data will be used for, it can be transcribed using either Jeffersonian



transcription conventions, or it can be transcribed using the method of orthographic/"playscript" transcription (Gibson, 2010).

Within this research, the interview agenda in phases 3 and 6 was structured around themes identified through the analysis of the SMTQ. In phase 1, the participant had been inducted to the research process and a sense of rapport had been established, which ultimately assisted with a comfortable, yet professional interview setting. Special consideration had been given to ethical considerations, such as discussing consent, the right to withdraw, and the use of a tape-recorder to assist with the recording and transcription of the data. These considerations had been discussed with the participant and he appeared comfortable to continue with the interview process. The data analysis method (thematic analysis) and the epistemological position (pragmatism) saw to the recorded data being transcribed near-verbatim, excluding transcription notation and only including the spoken words (Gibson & Hugh-Jones, 2012). The interview agendas for phase 3 and phase 6 are included in Appendices E and F. Thematic analysis is discussed in the following section as it pertains to analysis of the data collected during administration of the SMTQ and semi-structured interviews.

### **3.6 Data Analysis**

In addition to the standardised scoring of the SMTQ, thematic analysis was used within this research as one of the main data analysis techniques. Thematic analysis is known as a foundational, accessible, manageable and systematic method which aims to identify patterns, or themes, within data (Braun & Clarke, 2006; Willig, 2013). Willig (2013, p. 58) defines a theme as "a particular, recognizable configuration of meanings which co-occur in a way that is meaningful and systematic rather than random and arbitrary". Themes can either be overt or covert in nature, depending on the researcher's epistemological position or approach to the data (Joffe, 2012). Themes provide a conceptual structure for interpreting and reporting

answers to research questions (Braun & Clarke, 2006; Clarke & Braun, 2017). Flexibility is known as a particular strength of thematic analysis. This flexibility extends to theoretical orientation, types of research questions asked, research designs, and epistemological frameworks, but not to quality – thematic analysis is aimed at producing valid outcomes through its two-stage review process (Clarke & Braun, 2017). Braun and Clarke (2006, p. 87) provide a step-by-step guide for conducting thematic analysis, summarised Table D1, available in Appendix D. Data analysis occurred as part of phase 3.

### **3.7 Programme Development and Implementation**

The collection and analysis of data in phase 3 highlighted particular themes, which informed phase 4. Phase 4 consisted of a conceptualisation and clarification of aims, in which the researcher collaborated with the participant to establish possible goals and aims of the psychoeducational programme. Once the participant's input was received, the psychoeducational programme was developed. The programme was implemented in phase 5, and it was evaluated according to the participant's subjective experience in phase 6.

The eclectic approach adopted by this research integrated the Integrative Model of Human Performance (Gardner & Moore, 2007) with methods and techniques found in Dweck's (1986; 2006; 2009) theory of achievement motivation and mindsets, Cognitive Behaviour Therapy (Beck, 1976; Westbrook et al., 2011), and the Mindfulness-Acceptance-Commitment (MAC) approach (Gardner & Moore, 2004; 2007; 2017) to inform the development of the programme.

### **3.8 Quality**

Within traditional quantitative research designs, the quality of research is based on the reliability and validity of a research procedure (Golafshani, 2003). Gravetter and Forzano (2012) explain the difference between reliability and validity, and how quantitative research's quality may be negatively influenced. They describe reliability as the stability of a procedure

over time and whether research can be replicated to consistently obtain similar results. They refer to validity as whether the research measures what it intends to measure, in other words, whether the constructs under question are the constructs that are tapped into during the research process. They discuss various criteria of reliability and validity that should be met for quantitative research to be considered reliable and valid and note that in order for research to be considered reliable, a measure used must show statistical consistency, either internally; through its stability over time; or equated to another measure that measures the same construct. They further note that when the reliability of a measure is determined or used in a research process, the possible influence of observer error, environmental changes and participant changes whilst a measure is being administered must be considered, as this may have an influence on the perceived reliability of a measure. An example of participant influence on the reliability of a measure, is the self-serving response bias of “social desirability”, where a participant may wish to appear better than average in a measure (cf. Furnham, 1986; Pedregon, Farley, Davis, Wood, & Clark, 2012 for more in-depth discussions on the topic of social desirability). They further explain that in order for research to be considered valid in a quantitative setting, it must firstly be deemed as reliable, meaning that any component(s) that may cause uncertainty is seen as a threat to validity. They posit that validity can either be threatened externally, in terms of its ability (or lack thereof) to generalise its results to the wider population, or internally, in terms of other possible factors that may explain the outcomes of research.

Within qualitative research designs, however, quality is measured somewhat differently due to the different purpose of qualitative research – where quantitative enquiry aims to measure relationships or correlations between constructs, quantitative enquiry seeks to explore and provide greater understanding of constructs as they exist within their different contexts (Creswell et al., 2007). Therefore, as Golafshani (2003) asserts, reliability is an

irrelevant striving in qualitative research. As such, if reliability cannot be attained, or is not strived towards, validity can also not be achieved. However, this does not mean that the quality of qualitative research should be lacking or that the research does not carry value – it is just described in different terminology relative to the purpose that it serves (Lincoln & Guba, 1985). Therefore credibility is employed as an alternative to internal validity; transferability is seen as an alternative to external validity; dependability is used as an alternative to reliability; and confirmability is measured as an alternative to the objectivity associated with quantitative enquiry (Guba, 1981; Lincoln & Guba, 1985).

As this research process followed a qualitative dominant mixed methods research approach, the research process followed the rigour associated with a qualitative design. As such credibility and confirmability were created through the triangulation of data collected from the SMTQ (Denzin, 1978; Merriam, 1995); transferability was created through providing a detailed description of the participant, as well as the design, data collection, data analysis and results of the research (Bryman, 2016; Lincoln & Guba, 1985), and dependability was created through creating an opportunity for external audit and peer review by submitting the completed work for examination (Merriam, 1995). Furthermore, methodological integrity was maintained within this mixed method design through following the procedures associated with and required from both the quantitative portion and the qualitative portion of this research (Morse, 2003).

### **3.9 Ethical Considerations**

As this research process included the in-depth exploration of possibly sensitive topics (e.g. sense of self-confidence, discussed within Chapter 4) and included the development and implementation of a programme that had the potential to elicit psycho-behavioural change, it was important that the researcher act within ethical boundaries throughout the research process.

In addition to academic integrity and honesty, other ethical principles that were constant companions throughout the process of planning, conducting and finalising the research process were: obtaining informed consent from the participant before the data collection process started; not deceiving the participant; informing the participant that he had the right to withdraw at any time during the process; maintaining the participant's confidentiality and explaining the limits of confidentiality to the participant; protecting the participant from any possible harm or loss; preserving the participant's psychological well-being and dignity; and debriefing the participant after the research process had concluded (Willig, 2013). The informed consent form used for this research is available in Appendix A. These ethical considerations are encapsulated in the International Union of Psychological Science's universal declaration of ethical principles for psychologists. The declaration contains four principles: the respect for the dignity of people and peoples; competent caring for the well-being of persons and peoples; integrity; and professional and scientific responsibilities to society (Wiley, 2008). Allan (2015) discusses these as being characteristic of the values of respect; liberty; caring; beneficence; non-maleficence; and responsibility/justice.

Of particular importance in this study was continuous evaluation to ensure that the researcher was able to manage any negative impact that may have stemmed from the administration of either of the data collection measures or from the implementation of the programme. Detailed information about these ethical considerations and their navigation was provided in an Ethical Standards Protocol, which was subject to approval by the Research Projects and Ethics Review Committee (RPERC) of the Rhodes University psychology department, and the Humanities Higher Degrees Committee at Rhodes University, prior to commencing the research process.

As this research fell within the scope of sport psychology, there were additional ethical considerations take into account. As sport psychology is not a clearly delineated area of

practice in South Africa, it was necessary that every effort was undertaken to ensure that the applied work be competent work (Brown & Cogan, 2006; Stapleton, Hankes, Hays, & Parham, 2010). During this research, the researcher was acting within the capacity of a student researcher whilst being registered with the Health Professions Council of South Africa as a registered student/intern counselling psychologist and as such had to take particular care not to create a conflict of interest by blurring the lines between implementing a psychoeducational programme and moving into the scope of a more in-depth therapeutic intervention. This was considered before commencement of the research, and great care was taken throughout the research process to ensure that the focus of the research remained on the construct of mental toughness. Additional consideration was given to remaining objective within the process of research, as the researcher is also an athlete interested in personal development of performance excellence in sporting contexts. To the researcher's knowledge, any possible ethical concerns were successfully navigated throughout the process of this research project.

## **Chapter 4: Results and Discussion**

### **4.1 Introduction**

This chapter is structured according to the phases of Anderson et al.'s (2002) model for evaluation of applied sport psychology interventions. Phases are referred to in their numerical order in an attempt to allow for easier description and reading of the results. As such, the discussion of the results begins with phase 1 (orientation), in which the participant is introduced and contextualised. Thereafter, the participant's individualised assessment is discussed in phase 3, as it relates to the Sports Mental Toughness Questionnaire (hereafter referred to only as SMTQ) and the semi-structured interview. This is followed by phase 4 (conceptualisation) in which rationale for the development of the mental toughness programme is provided, based on the outcomes from the triangulation of data collected in phase 3. Phase 5 (implementation) is then discussed as it pertains to the mode of delivery of the programme as well as the content of the programme. Finally, phase 6 (end of the programme) is discussed and contains information related to the outcomes of the second set of collected and triangulated data. The results chapter is concluded with a summary of findings. In total, there were 5 contact sessions between the researcher and participant. As data analysis was based solely on the outcomes of the SMTQ and semi-structured questionnaire, the participant was not recorded during the conceptualisation phase or the implementation phase of the programme. Limitations and opportunities for future research are discussed in Chapter 5 of this document.

### **4.2 Phase 1: Orientation**

Phase 1 included clarifying the participant's particular concerns and related requirements; explaining the nature of the research; and discussing the expectations of possible outcomes (cf. Chapter 3). The participant was asked to take note of his thoughts during training, to prepare him for the data collection process in phase 3.

### 4.2.1 The Participant

The participant is a 26-year old male, who started cycling competitively at the age of 14 and describes it as his “main love”. He started competing in duathlon-events at the age of 21, combining his love for cycling and his affinity for running. He has represented South Africa at two Duathlon World Championships, and is no stranger to international, provincial and national podium finishes in both cycling and duathlon. As further testament to his impressive track record as a duathlete, the participant was able to attain six age category 1st place finishes in the first four years of his duathlon career. The participant recently took an 18-month break from his career as a semi-professional duathlete and ascribes this to difficulties related to time (i.e., working full-time and studying part-time) and management (i.e., unreliable coaching). Recently, he partnered up with a new coach after setting his sights on training for the half-Ironman (cf. chapter 2). Although the participant has achieved successes in both cycling -and duathlon-events, he has little experience in triathlons, and is wary of the additional swimming component required for the successful completion of a triathlon:

“Just my swimming is the only concern, hey. [We] come from the Karoo.

There’s not water to swim in...we have to be careful.”

Although the participant is nervous about his swimming, he still is adamant that he wants to be a professional athlete:

“*Ja*, that’s what I want to do for the rest of my life...It must be my job. I

want to wake up and that’s what earns the money.”

The participant feels that his mental toughness may be partly to blame for not having achieved professional status, even though he is a talented cyclist and duathlete. In particular, he feels that he struggles with a low sense of confidence; puts pressure on himself to perform at peak-levels all the time; becomes frustrated and loses his temper with himself; and feels that he has lost his ability to persevere since having taken a break.



### **4.3 Phase 3: Individual Assessment**

#### **4.3.1 SMTQ**

The SMTQ measures mental toughness through its subscales of confidence, constancy and control (Sheard, 2010; Sheard et al., 2009). The confidence subscale measures self-efficacy (or the belief in the ability to achieve goals and be better than opponents) and its six items are all worded positively, providing a score congruent with an individual's overall sense of confidence. The constancy subscale measures determination, sense of personal responsibility, an unyielding attitude, and the ability to concentrate. Two of its four items are worded positively and two are worded negatively, providing a score congruent with an individual's overall sense of constancy. Finally, the control subscale measures whether an individual perceives that they are influential and whether they can make things happen for themselves, with four negatively worded items measuring an individual's sense of "lack of" control more so than an individual's actual sense of control over situations.

The participant's performance on the SMTQ was interpreted according to norms available for the factors of competitive standard, gender and age (Sheard et al., 2009). Although the participant had not competed in a triathlon at the commencement of the research process, it was understood that he would be competing at club/regional level in the near future.

Analysis of the SMTQ indicated a low average sense of self-confidence, an average sense of constancy, a superior sense of (lack of) control, and an average sense of overall mental toughness, according to all normed factors. Standardised outcomes from the SMTQ are displayed in Table 2.

Table 2

*Phase 3 SMTQ Standardised Scoring Outcomes*

<b>Competitive Standard (Club/Regional)</b>				
Scale	Score	<i>M</i>	<i>SD</i>	Qualitative Description
Confidence	11	15.27	3	Low Average
Constancy	12	12.69	2.18	Average
Control	16	10.80	2.20	Superior
Total Mental Toughness	39	38.76	5.35	Average
<b>Gender (Male)</b>				
Scale	Score	<i>M</i>	<i>SD</i>	Qualitative Description
Confidence	11	17.03	3.12	Low Average
Constancy	12	12.92	2.27	Average
Control	16	10.92	2.32	Superior
Total Mental Toughness	39	40.88	5.67	Average
<b>Age Group (25+)</b>				
Scale	Score	<i>M</i>	<i>SD</i>	Qualitative Description
Confidence	11	17.50	3.36	Low Average
Constancy	12	13.49	2.35	Average
Control	16	11.44	2.36	Superior
Total Mental Toughness	39	42.43	5.77	Average

*Note.* Table informed by information provided in “Progress toward Construct Validation of the Sports Mental Toughness Questionnaire (SMTQ),” by M. Sheard, J. Golby and A. van Wersch, 2009.

The positive/negative wording of each subscale’s individual items was considered to determine whether the participant experienced a vulnerability to negative affectivity (i.e., the likelihood of experiencing negative emotions and poor self-concept). Furthermore, each subscale’s lowest-scoring individual items were considered to determine particular difficulties. Items and their responses are illustrated in Table 3.

Table 3

*Subscale Item Outcomes*

Subscale	Item	Wording	Response
Confidence	1. I have an unshakeable confidence in my ability.	Positive	“Not at all true”
	13. Under pressure, I am able to make decisions with confidence and commitment.	Positive	“Not at all true”
	14. I can regain my composure if I have momentarily lost it.	Positive	“A little true”.
Constancy	10. I get distracted easily and lose my concentration.	Negative	“Mostly true”
Control	2. I get anxious by events I did not expect or cannot control.	Negative	“Very true”
	4. I worry about performing poorly.	Negative	“Very true”
	7. I get angry and frustrated when things don't go my way.	Negative	“Very true”
	9. I am overcome by self-doubt.	Negative	“Very true”

*Note.* Table informed by information provided in “Progress toward Construct Validation of the Sports Mental Toughness Questionnaire (SMTQ),” by M. Sheard, J. Golby and A. van Wersch, 2009.

This consideration of chosen responses to the questionnaire and their affective (positive/negative) wording highlighted four global themes linked to the SMTQ subscale themes of confidence, namely self-confidence (item 1); control, namely negative affectivity/emotional control (e.g., anxiety, item 2; worry, item 4; anger and frustration, item 7; and self-doubt, item 9); and constancy, namely attention and focus (item 10), and flexibility (item 14). These themes informed the development of the semi-structured interview.

#### **4.3.2 Semi-Structured Interview**

Thematic analysis of the semi-structured interview yielded eight subthemes linked to the four the global SMTQ themes as mentioned in the previous section. Under the global theme of self-confidence, subthemes were perfectionism; self-criticism; and difficulty making

decisions. Under the global theme of negative affectivity/emotional control, subthemes were emotion and attitude. Under the global theme of flexibility, the subthemes were cognitive biases and goal-setting. Finally, the global theme of attention and focus, outside influences was identified as a subtheme. Thematic maps are displayed in Figure H.1. in Appendix H. A discussion of each global theme and its related subthemes follows.

#### 4.3.2.1. *Self-Confidence*

Self-confidence, or the belief that an individual holds about their ability to achieve a pre-set goal, enables an athlete to reveal competence; attitude; self-efficacy; take calculated risks; respond positively to criticism; and control affective functioning (Beauchamp, Jackson, & Morton, 2012; Fourie & Potgieter, 2001; Jones & Moorhouse, 2007; Weinberg, 2013). Self-confidence is seen as an integral part of mental toughness (Weinberg, 2013) due to its ability to buffer against unhelpful cognitions and emotions when the going gets tough, and its ability to increase the likelihood of successful outcomes, sustain involvement, maintain performance and enhance sport-enjoyment (Hanton, Mellalieu, & Hall, 2004; Koehn, Pearce, & Morris, 2013; Vealey, 2009)

Outcomes from the SMTQ indicated that the participant experienced an overall sense of confidence as being low average. His response to item 1, “I have an unshakeable confidence in my ability”, was noteworthy as he indicated “not at all true”. When the participant was asked what confidence meant to him, he responded:

“I’d probably say it’s the key to success. Or like the missing ingredient perhaps. One of the ingredients to success is confidence. You have to have it to make it. Well that’s just what I believe. You have to have confidence; you have to believe in yourself. You have to believe in your abilities. You’ve got to market yourself. You know? Not being “*windgat*” (arrogant) but just, just having that something about you, that aura around you. I think

I can see the people with confidence. They're the people the sponsorships are attracted to. They just create their own universe. The universe is attracted [to them].

It appeared that the participant did not include himself when talking about those "confident" individuals that are seemingly easy to spot, and that he felt that he would have only made it as an athlete if he attained that elusive sponsorship. When this was explored further in terms of the difference between the participant and professional athletes, he responded:

"They are professional. They've got sponsors. They've probably got more confidence. I always find myself lacking self-confidence but I tend to believe I've got the potential. But utilising that potential is where I have the confidence problem sometimes...In my mind I believe it until it comes down to doing it."

The participant seemed to believe that if he could not attain sponsorship, he would never achieve athletic success. This preoccupation with sponsorship as an indication of his athletic competence was congruent with the adoption of a "fixed-mindset" and its setting of "performance goals", or the valuing of external validation as a measure of success (Dweck, 2006; Elliot & Dweck, 1988). As the theme of overall self-confidence and the meaning-system that the participant held was explored further throughout the semi-structured interview, it became apparent that the participant had adopted certain strategies that, in his mind, would ensure his ability to display competence (Blackwell et al., 2007; Dweck, 2000). The most salient of these strategies appeared to be the adoption of perfectionism.

### *Perfectionism*

Perfectionism is a multidimensional phenomenon and can be divided into two basic categories: perfectionistic strivings (striving for perfection and setting high standards of

performance) and perfectionistic concerns (concerns over making mistakes, fear of negative evaluation by others, feelings of discrepancy between one's expectations and performance, and negative reactions to imperfection) (cf. chapter 2; Stoeber, 2011; Stoeber & Otto, 2006). At face value, perfectionistic concerns appear to share traits with the helpless pattern associated with a fixed-mindset: the negative affectivity in response to failure, the adoption of performance goals and external validation of competence, and negating hard work as part and parcel to performance (Kamins & Dweck, 1999).

A negative association has been indicated between mental toughness and perfectionistic concerns (Suárez-Cadenas et al. 2016), shedding light on how unhealthy perfectionism may have a negative impact on overall mental toughness as well.

The participant's responses highlighted a theme of perfectionistic concerns and its related concerns over making mistakes, the fears of negative external evaluation, the unrealistic expectations and the negative responsiveness to perceived failure:

“I put lots of pressure on myself [to perform] ... I've got a huge hard work ethic, but only when it comes to [sport] and perfection when it comes to training... in sport a pass is not okay ... [It should be] a good race for the spectators...[It's] probably a bit of an image thing? [If] I go race now and I come 50th, [they'll think] “uh, look how bad he is”. So that also accounts [for] it...I set my goals high ... [If I fail] I'll be upset. I'll be quite upset and just think generally negative thoughts... You don't always give yourself a break, you know? ... You get angry with yourself.”

This was coupled with a sense of self-worth that appeared to be dependent only on sporting activities, cyclically maintaining decreased feelings of self-efficacy and a lower sense of self-confidence (Gotwals et al., 2003; Hamidi & Besharat, 2010; Stoeber et al., 2008; Stoeber et al., 2007):

“I don’t know where I fit in in life. But the only thing I do know in life right now is I fit in when I’m running [and] when I’m cycling...To me it feels like, it’s not just sport for me. It’s who I am. No one understands. And that’s the way I feel. No one understands me; no one understands what sports means to me. It’s all I have, it’s all I am, and it’s all I want to be.”

Furthermore, the participant avoided racing when not in “top form” in order to avoid negative outcomes, and would not count good performances when “not in top form” as being indicative of peak performance. Avoidance strategies may be used by individuals who hold a fixed-mindset when they perceive that they may not receive the external validation needed to confirm their competence (Kamins & Dweck, 1999; Roberts & Papaioannou, 2014). Avoiding the risk of seeming incompetent may negatively influence the participant’s ability to overcome anxiety through prohibiting the development of strategies that can assist him to remain in control when adversity strikes (Crust & Keegan, 2010):

“I don’t like racing if I know I’m not ready to race...I can go run it, but I’m not at my peak performance so giving my all now compared to giving my all at peak performance is two different things. So I get very hesitant to go race and compete when I’m not at peak performance...At peak performance giving it my all - that’s a win...it just gets frustrating, because that’s [referring to giving your all even when not in top form] not a true reflection of how good you perhaps are.”

The participant’s concerns over making mistakes, his fear of negative evaluation by others, his feelings of discrepancy between his expectations and his actual performance, his negative reactions to imperfection, his sense of self-worth that is dependent on his sporting achievement, and his avoidance behaviours further suggested the apparent adoption of a fixed-mindset (Chan, 2012; Kamins & Dweck, 1999; Roberts & Papaioannou, 2014).

### *Self-Criticism*

As the interview continued, it became apparent that when the participant was not able to display competence through his strategy of perfectionism in a bid to meet performance goals, he would engage in a common strategy used in a fixed-mindset: self-criticism (Kamins & Dweck, 1999; Lazarus and Folkman, 1984). Self-criticism can have negative effects on affective –and behavioural regulation, and has been associated with lower levels of resilience and assertiveness; higher levels of sadness and shame; and lower goal progress (Powers, Koestner, Zuroff, Milyavskaya, & Gorin, 2011; Whelton & Greenberg, 2005).

The participant would sometimes bully himself when things did not go as planned, and created the impression that unrealistic expectations of consistent victory were at the order of the day:

“I do feel sometimes if [I] don’t get those peak performances: “you are not good enough, you are stupid, what do you have going for you? Why are you not the best in the world? Why aren’t you a professional athlete? Why aren’t you reaching your dreams? Why haven’t I achieved my dreams? Why am I stuck in a classroom? You’re not going to make it. You’re not strong enough. You failed.”

### *Difficulty Making Decisions*

Related to overall mental toughness and the subscale of confidence, is an individual’s ability to make decisions under pressure that will push him/her to take risks, face challenges and learn from mistakes in order to develop their skill and performance (Crust & Keegan, 2010).

On the SMTQ, the participant responded “not at all true” when asked whether he feels that he is able to make confident and committed decisions under pressure. Previous sections have explored the participant’s apparent adoption of a fixed-mindset and his beliefs that he



could only display competence through being “perfect” at sport (cf. 4.3.2.1 and the subparagraph on perfectionism). As such, it is understandable why he appeared to be overly concerned over possible mistakes, as mistakes would indicate a lack of competence (Dweck, 2006; Stoeber, 2011; Stoeber et al., 2007). This difficulty related to competent and confident decision-making (and associated risk-taking), appeared to create hesitation in even the most basic contexts:

“Very often [I struggle] with [making decisions about] basic things. I can’t make up my own mind.”

When considering the data, the apparent entity theory of ability that the participant held seemed to have a notable influence on his confidence (Dweck & Molden, 2007; Nussbaum & Dweck, 2008). It placed him in a low average position on the SMTQ scale of confidence, making him believe that he required external validation in order to appear competent, pushed him to adopt perfectionistic concerns in an attempt to make this happen, saw to the development of a helpless pattern of responsiveness to perceived incompetence, and creating hesitation when making decisions, as the wrong decision could bring the risk of failure.

#### *4.3.2.2. Negative Affectivity/Emotional Control*

A mentally tough athlete has the ability to cope with stressors by remaining composed, being accepting, and controlling emotion in the face of undesirable events, ultimately mediating the risk of poor performance outcomes (Fourie & Potgieter, 2001; Gucciardi et al., 2008; Jones et al., 2002; Jones & Moorhouse, 2007). Outcomes from the SMTQ indicated that the participant may be vulnerable to negative affectivity and obtained a superior score on the scale of (lack of) Control. When this was explored during the semi-structured interview, the participant expressed the belief that emotion and affect spontaneously “come from the self” and that there is little chance of changing how it is felt or expressed. Emotional and

affective experiences were sometimes quite extreme, and negatively influenced the participant's attitude towards himself and others.

### *Emotion*

As with the outcomes from the exploration of the participant's feelings of self-confidence, the participant appeared to adopt the helpless pattern of responsiveness when faced with setbacks (Kamins & Dweck, 1999). These affective experiences were also congruent with the negative affectivity/emotional control theme identified during analysis of the SMTQ, where the participant responded "very true" to items measuring his experiences of anxiety in uncontrollable events; worry about poor performance; anger or frustration when things do not go as planned; and self-doubt in his abilities:

*"Ek raak vir myself kwaad...I lose my temper with myself. I've got a short fuse, but not for what other people do...In a race I get very frustrated very quickly. And I can get very anxious, you know if things are going pear-shaped. In training you can very much still control that stuff, you know? Because you know it's only training, but when it's a race you know it's a real thing and you can start getting into a panic thinking "okay, this oke is on my heels", or "I'm not going to catch this oke", or "I've got a flat tyre now I must change this", and you all of a sudden go into a panic or get anxious...Then you lose complete focus and stuff...It's overwhelming emotions...It flits from the one [anxiety] to the other [excitement]."*

### *Attitude*

In addition to this, the participant would engage in counter-productive behaviours, such as jealousy of others, minimising other's successes and finding excuses, again congruent with a fixed-mindset (Dweck, 2006). This approach displayed a negative attitude towards his

chances of achieving future success, and also discounted the actual successes that he had achieved in the past:

“I get quite jealous...of other athletes and stuff, [of] their success...And you do look at some people who you are generally better than. Through the years, people who I’ve generally consistently beaten. Just because of who they know and who they are and where they are, getting big sponsorships...That’s just frustrating...I just get sour and look for excuses and think I got the raw end of the stick or I didn’t get the opportunities that other people got in life...Every day it’s a day less that you’re going to make it and it does feel like I’m not going to make it. [There’s] a difference between knowing what you want and believing that you’re going to get it ... [Then, when asked which of these two categories he falls into] I know what I want.”

Previous reflections on the participant’s self-confidence noted that he possibly held an entity theory of ability/fixed-mindset. The exploration of the participant’s experiences of negative affect/emotional control again highlighted the utilisation of a fixed-mindset’s helpless responsiveness when faced with adversity, placing him within a superior range of (lack of) control on the SMTQ. This had the effect of filling him with worry, anxiety, frustration and self-doubt when things did not go as planned and making him resentful of others, instead of taking responsibility for his own sporting endeavours (Dweck, 2006; Dweck & Molden, 2007; Nussbaum & Dweck, 2008).

#### *4.3.2.3.Flexibility*

Underscoring the ability to cope with stressors, is the ability to be flexible when choosing coping styles in the face of adversity (Fourie & Potgieter, 2001; Gucciardi et al., 2008; Jones et al., 2002; Jones & Moorhouse, 2007). It has been proposed that individuals consciously

adopt a particular coping style to manage possibly distressing environmental, emotional, cognitive and behavioural experiences (Compas et al., 2001). Coping strategies are assessed based on personal responsibility (either blame/credit), ability to cope, and future expectations. Congruent with the mastery or helpless responses (Kamins & Dweck, 1999), coping styles can be either problem-focused (i.e. focusing on managing the threatening stimulus through activities such as planning or goal-setting) or emotion-focused (i.e. focusing on regulating emotional experience through behaviours such as withdrawal or self-critical cognitions) (Lazarus & Folkman, 1984). When an individual inflexibly applies emotion-focused/helpless responses to setbacks, it may see to excessive/inappropriate emotional experiences and expressions (Goldsmith & Davidson, 2004). Thematic analysis of the semi-structured interview was congruent with the participant's "a little true" response to the SMTQ item that measured the participant's perceived ability to "regain his composure if he momentarily loses it", indicating a vulnerability to inflexible responses when adversity strikes, congruent with a fixed-mindset's "helpless pattern" of responsiveness (Dweck, 2006; 2009; Kamins & Dweck, 1999). The participant recalled an unexpected moment at a water point when it was difficult for him to remain calm:

"...I just slipped. Just with that slip, within [the] two seconds [of] being up, then down, and trying to get up again...you start panicking and you get anxious. Your heart races, almost like you don't get oxygen, like a panic attack. And your mind goes wild..."

In response to losing composure or not achieving a set goal, the participant would need some time to recover his emotional standing:

"Sometimes I have a good little sulk, or I just should be alone for just a little while just to compose myself again."

This showed a tendency to engage in emotion-focused coping by avoiding further engagement with the stressor and withdrawing from the situation (Gardner and Moore, 2007; 2017; Lazarus and Folkman, 1984):

### *Cognitive Biases*

Inflexible, habitual or extreme errors of thought can prohibit an individual from seeing positive alternatives to negatively perceived experiences, such as the events mentioned above (Westbrook et al., 2011). The participant's unrealistic expectations were congruent with his difficulties related to his perfectionistic concerns about his understanding of peak performance and achievement, regardless of his current abilities:

“I set my goals high...You just expect things to be where you left off and stuff, you know? Now when I'm tired it's just so easy for me to start walking, where as in previous situations it was never an option now it has become an option for me which I don't like... I would like to be consistently at the top of my performance, consistently top three in the world. I want to be competing in the highest league. And in that league, I want to be consistently top 5 or top 3...”

Furthermore, the participant applied dichotomous thinking, plotting his performance as either “good” or “poor” and leaving no room to consider the contextual factors that may impact on the racing outcome, stating that performance “must be all or nothing”. Again, this was congruent with the adoption of a fixed-mindset and the participant's perception of being either competent, or incompetent with nothing in between (Dweck & Molden, 2007).

In order for the participant to achieve these unrealistic expectations and always be on the “good” end of the performance scale, he applied a variety of musts, sometimes catastrophising the outcomes:

”You *must* be alert, because all of a sudden you’re not thinking, and then there’s a pothole, and there’s a wet spot and you slip or fall...it’s very important, I believe you *must* stay focused and you *must* think.

#### *Goal-Setting*

This unrealistic expectation of “all or nothing” performance was explored further – did it mean podium finishes, or giving his best? Ultimately, it seemed that the participant’s best would not be good enough for long, as he would ultimately shift his already unrealistic goal posts:

“I’m always looking for new possibilities, new ways to improve... If you haven’t won, have you given everything? So look, you have to look who your competitors are, you know? Why win an easy race? ... Because that’s not a true reflection of how good you perhaps are. You could be better.”

If he did manage to temporarily attain his vague but unrelenting standards, he would appraise his standards as insufficiently challenging in the first place, applying a fixed-mindset and comparing himself to others as a measure of his actual success (Dweck, 2006).

#### *4.3.2.4. Attention and Focus*

Attentional focus, or the ability to be mindful whilst focusing on the particular processes of the task and focusing only on things that are within an athlete’s control, is imperative to the mental toughness required to develop and sustain performance success (Gucciardi et al., 2008; Jones et al., 2002; Jones & Moorhouse, 2007; Weinberg et al., 2011; Woods, 1998). The participant appeared to be particularly vulnerable to losing attention and focus during events, congruent with his “mostly true” response to the SMTQ item which explicitly measures distraction and concentration loss:

“I lose focus of what I’m doing...I’ll be running, thinking of the colour blue and somehow I find myself thinking about elephants, you know? I

don't know where that went off the track. You just think off for some or other reason.”

### *Outside Influences*

This loss of attention and focus seemed to occur in an attempt to divert cognitive attention away from performance-relevant stimuli by shifting his focus to non-threatening, task-irrelevant stimuli, for example daydreaming events and pressures outside of the sport domain (Eysenck et al., 2007; Gardner & Moore, 2007; Jones, 2003):

It's the side show stuff that sometimes [throws] you off, you know? Sometimes it's not even the race sometimes you're racing but there's someone else that's upsetting you...my mind was more there [than focused on the race].”

The participant appeared to want to control his thoughts, but it seemed that these attempts to always be in control may have counter-productively led to the over-utilisation of his cognitive resources, increasing the likelihood of losing focus and filling him with further anxiety at his inability to “remain focused and in control” (Gardner & Moore, 2007).

### **4.3.3 Summary**

These themes of perfectionism; self-criticism; difficulty with making decisions; difficulties controlling emotion; a negative attitude; distraction by outside influences; the application of cognitive biases; and unrealistic goal-setting strongly suggested that the participant was holding an entity theory of sporting ability or a fixed-mindset (Dweck, 2006; Elliot & Dweck, 1988). It appeared that the participant attached more value to competence validation, dependent on his understanding of the meaning of competence as being linked to consistent peak performance and his current lack of sponsorship as a professional athlete (Dweck & Molden, 2007). This saw to the participant valuing performance goals (or external validation) over learning goals (or competence acquisition) (Dweck, 2006; Elliot & Dweck,

1988). This entity self-theory, or fixed-mindset, appeared to push the participant to foster perfectionism in order to attain and display competence, which appeared to have a negative effect on the participant's confidence, flexibility and affective functioning, especially in adverse situations where mental toughness was called upon (Blackwell et al., 2007; Dweck, 2000). Instead, he would adopt a "helpless pattern" in response to perceived failure, which consisted of displays of negative affect and avoidance strategies, and a tendency to see failure as an indication of a lack of talent, negatively influencing the participant's overall self-esteem (cf. Aditomo, 2015; Kamins & Dweck, 1999; MacNamara, Button, & Collins, 2010; Roberts & Papaioannou, 2014). Furthermore, he found it difficult to be in the here-and-now or see himself as made up of more than his performance identity, and as such described less enjoyment of his chosen sport and in other life-endeavours. All in all, although the participant had obtained an average outcome on the SMTQ scale of overall mental toughness, it appeared that his low average level of self-confidence and his superior level of (lack of) control were factors that contributed to his feelings of lacking the mental toughness required to become a professional athlete. This information assisted with creating a detailed conceptualisation of the participant's difficulties, which is discussed in the following section.

#### **4.4 Phase 4: Conceptualisation and Clarification of Aims**

The eclectic approach adopted by this research integrated the Integrative Model of Human Performance (cf. Chapter 3; Gardner & Moore, 2007) with methods and techniques found in Dweck's (1986; 2006; 2009) theory of achievement motivation and mindsets, Cognitive Behaviour Therapy (Beck, 1976; Westbrook et al., 2011), and the Mindfulness-Acceptance-Commitment (MAC) approach (Gardner & Moore, 2004; 2007; 2017) to inform the development of the programme as it related to the participant's difficulties identified through the triangulation of data collected and analysed from the SMTQ (Sheard et al., 2009) and the semi-structured interview (cf. section 4.3 of this chapter).





#### 4.4.1 Achievement Motivation and Mindsets

Individuals are described as having an innate need to be competent, which over time creates a meaning-system attached to learning and self-esteem (Dweck & Leggett, 1988; Hong et al.,1999). An individual can attach more value to either learning acquisition or to competence validation, dependent on their subjective understanding of the meaning of competence (Dweck & Molden, 2007). This is described as either valuing learning goals (incremental theory or “growth-mindset) or valuing performance goals (entity theory or “fixed-mindset”), with learning goals being directed towards competence acquisition, and performance goals being directed towards an external validation of competence (Dweck, 2006; Elliot & Dweck, 1988). These self-theories and their meaning systems foster particular strategies to attain competence, which have particular bearing on self-esteem, motivation and the attainment of goals, especially in adverse situations where mental toughness is called upon (Blackwell et al., 2007; Dweck, 2000). For the purpose of this research, the participant was educated on the following:

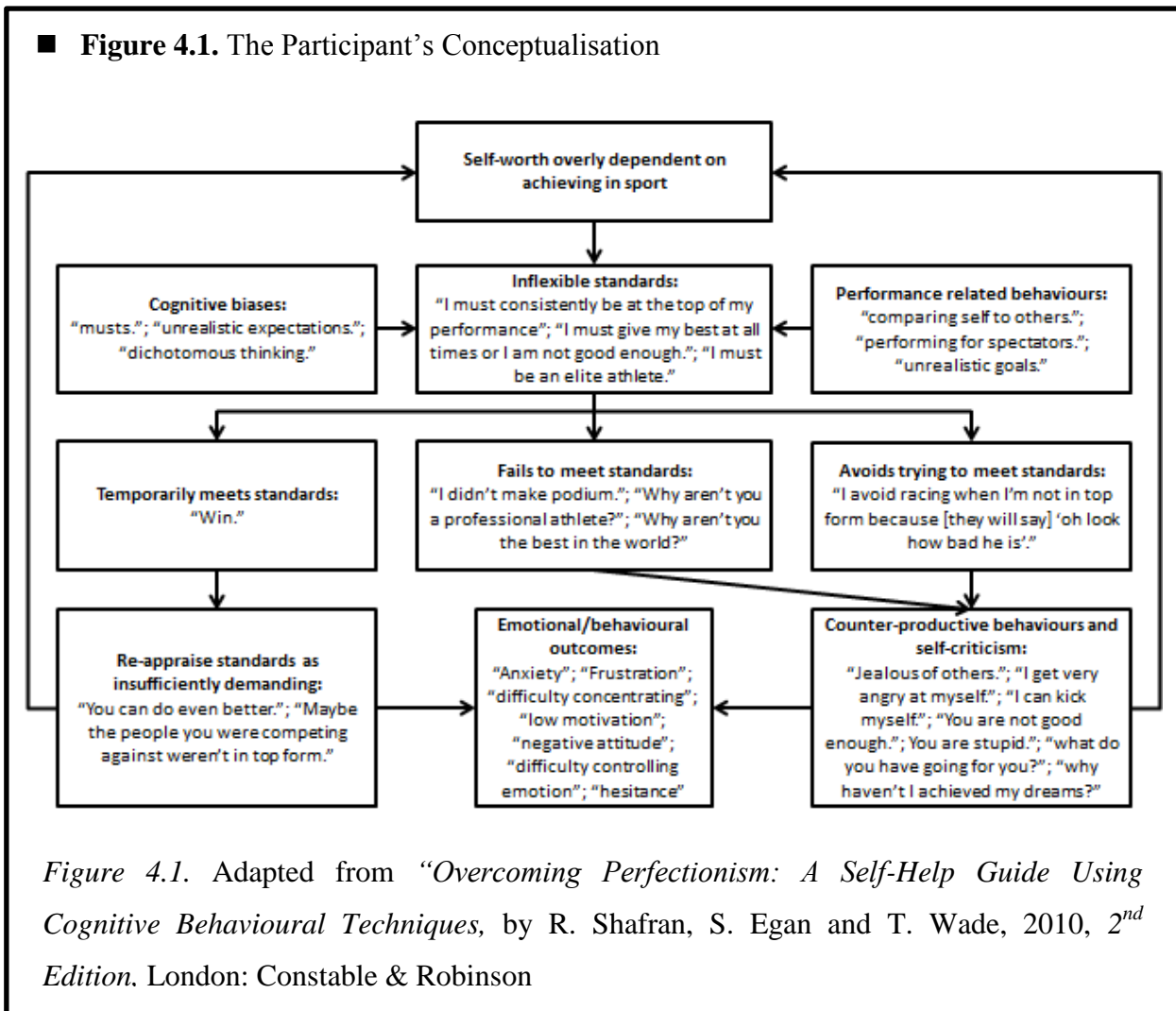
- Performance, to educate the participant on what performance means and to assist with the development of a more flexible and less self-critical understanding of variables that influence performance as part of priming a growth-mindset (Spray et al., 2006);
- The theory of mindsets, in order to educate the participant in theories of ability and promote confidence as a part of the participant’s mental toughness (Dweck, 2006; Dweck & Molden, 2007);
- Goal-setting, in order to educate the participant on setting learning goals (Dweck, 2006; Dweck & Molden, 2007).

The homework section of the programme included goal-setting -and mindset exercises where the participant could actively engage with the programme after implementation.

#### 4.4.2 Cognitive Behaviour Therapy

Cognitive Behaviour Therapy (CBT), similar to the Integrative Model of Human Performance (Gardner & Moore, 2007), considers the complex interactions between the environment and our unique systems of cognition, affect (emotional expression), behaviour and physiology (Westbrook et al., 2011). Our behavioural and/or emotional reactions to stimuli (environmental or internal) are strongly influenced by our cognitive perceptions (cognitions) thereof and have an influence on our wellness. CBT is collaborative, structured, brief, empirical, problem oriented, uses guided discovery, creates behavioural awareness and provides summaries and feedback (Westbrook et al., 2011). Psychoeducation often forms part of CBT, and central to its use is the development of an accurate conceptualisation in order to create a clear picture of difficulties and how problems are developed and maintained (Westbrook et al., 2011). For the purpose of this research, psychoeducation was used as the mode of intervention delivery. As the outcomes of data collection and analysis suggested that the participant's difficulties stemmed from the adoption of a fixed-mindset and its sequelae of fostering perfectionism in order to attain and display competence, the participant's difficulties were conceptualised according to Shafran, Egan, and Wade's (2010) revised cognitive model of clinical perfectionism. Perfectionism has been shown to be positively correlated with a fixed-mindset (Chan, 2012) and as such, it may have a negative impact on overall mental toughness (Suárez-Cadenas et al., 2016). The model depicts a sense of self-worth that is dependent on athletic/sport achievement. In an attempt to control for this, inflexible standards are attached to dysfunctional assumptions, or rules such as "I must give my best at all times or I am not good enough". Feeding into these rules and inflexible standards are cognitive biases such as *musts*, *unrealistic expectations* and *dichotomous thinking*. The inflexible standards and governing rules also have performance related behaviours attached to them, such as comparing yourself to others, performing for spectators and setting unrealistic goals.

When high standards of “top performance” are occasionally met, it feels like a win, but then those standards are re-appraised as insufficient. Counter-productive behaviours and self-criticism follow on the occasion that high standards are not met. Behavioural avoidance is used to in an attempt not to “fail”. This again leads to counter-productive behaviours and self-criticism. The behavioural/emotional outcomes of either re-appraising standards as insufficient or the engagement in counter-productive behaviours and self-criticism include uncomfortable and performance-influencing states. In the third contact session, the model and its function were explained to the participant, promoting collaboration between the participant and researcher and affording the participant the opportunity to question or challenge the researcher’s understanding as part of continuous evaluation. It was stressed to the participant that no diagnosis of clinical perfectionism was made, the model serving only as a tool for clearer understanding of how his thoughts, emotions and behaviours may interact to negatively influence his mental toughness. The model is illustrated in Figure 4.1:



This conceptualisation assisted with providing a clear layout, so that particular difficulties could be addressed through including appropriate content within the psychoeducational mental toughness programme. Other CBT related information included in the programme, was:

- Cognition, to educate the participant on how thoughts, emotions, behaviours and the environment interact to form either helpful or unhelpful patterns and to tackle the participant's cognitive biases and promote cognitive flexibility in order to foster mastery-responses, or problem-focused coping strategies, to setbacks (Dweck, 2006; 2009; Jones, 2003; Thomas et al., 2007).

A Daily Thought Record (DTR) that was included in the homework section of the programme, to create awareness of the participant's particular unhelpful cognitions.

#### **4.4.3 The Mindfulness-Acceptance-Commitment (MAC) Approach**

The MAC approach (Gardner & Moore, 2004, 2007, 2017) aims to develop mindfulness, acceptance and commitment through fostering attention without judgement to the here-and-now, normalising any intrapersonal experiences whilst nurturing the willingness (as opposed to the experiential avoidance) to have these experiences, and shifting the focus to factors that are performance relevant. As a strength-based approach, it aims to enhance appropriate behaviours needed within all performance contexts, as well as personal contexts, since individuals are seen as holistic beings made up of more than just performance identities (cf. Chapter 2). For the purpose of this research, the participant was educated on the following:

- Mindfulness, to educate the participant on strategies of emotional control and attentional focus and to promote these factors as being part of mental toughness (Gardner & Moore, 2007; 2017; Weinberg, 2013).

The homework section of the programme included activities related to mindfulness for the participant to engage with after programme implementation. The psychoeducational programme is available for perusal in Appendix J.

#### **4.5 Phase 5: Implementation of Psychoeducational Mental Toughness Programme**

The psychoeducational mental toughness programme was implemented in one two-hour contact session, and consisted of educating the participant on the contents of the programme through collaborative discussion. Any questions posed by the participant were answered to the best of the researcher's ability, and the participant was encouraged to practice the newly learnt skills through engaging with the homework section on a daily basis. Regular breaks were included in the programme, to ensure that the participant did not become overwhelmed or become too tired to concentrate.

The participant appeared to enjoy the programme, and remained actively engaged throughout, bringing his own knowledge of sporting participation into the discussion. In particular, he found the information on mindsets and mindfulness interesting, and noted that he could see value in learning how to “watch his thoughts drive by like a car without his thoughts saying something about his self-worth”. Parallel to this, was his appreciation of his “thoughts being an opinion, and not a fact”, signalling that he may have more control over his emotional experience in response to cognition than he previously thought.

It was agreed that the programme in its totality would be practiced by the participant for eight days. The participant was scheduled to partake in an event after the initial eight-day individual engagement period. This created a space for the participant to put his newly acquired knowledge to the test in a competitive environment. After the event, the participant engaged with the researcher to provide feedback on his experiences.

#### **4.6 Phase 6: End of Intervention**

After the participant engaged in the programme for the agreed-upon time period, the final contact session was held in which the participant completed the SMTQ and engaged in a semi-structured interview with the researcher. The outcomes are discussed in the following section.

##### **4.6.1 SMTQ**

The participant’s performance on the SMTQ was again interpreted according to norms available for the factors of competitive standard, gender and age (Sheard et al., 2009).

Analysis of the SMTQ indicated an average sense of self-confidence, an average sense of constancy, an average sense of (lack of) control, and an average sense of overall mental toughness, according to all normed factors. Standardised outcomes from the phase 6 administration of the SMTQ are illustrated in Table 4.

Table 4

*Phase 6 SMTQ Standardised Scoring Outcomes*

<b>Competitive Standard (Club/Regional)</b>				
Scale	Score	<i>M</i>	<i>SD</i>	Qualitative Description
Confidence	18	15.27	3	Average
Constancy	11	12.69	2.18	Average
Control	11	10.80	2.20	Average
Total Mental Toughness	40	38.76	5.35	Average
<b>Gender (Male)</b>				
Scale	Score	<i>M</i>	<i>SD</i>	Qualitative Description
Confidence	18	17.03	3.12	Average
Constancy	11	12.92	2.27	Average
Control	11	10.92	2.32	Average
Total Mental Toughness	40	40.88	5.67	Average
<b>Age Group (25+)</b>				
Scale	Score	<i>M</i>	<i>SD</i>	Qualitative Description
Confidence	18	17.50	3.36	Average
Constancy	11	13.49	2.35	Average
Control	11	11.44	2.36	Average
Total Mental Toughness	40	42.43	5.77	Average

*Note.* Adapted from “Progress toward Construct Validation of the Sports Mental Toughness Questionnaire (SMTQ),” by M. Sheard, J. Golby and A. van Wersch, 2009.

Standardised outcomes from phase 6 were qualitatively compared with the standardised outcomes from phase 3, and it is noted that the participant appeared to improve in his overall sense of confidence and his overall sense of control, with his sense of constancy remaining similar to the previous administration of the SMTQ. A qualitative SMTQ subscale comparison of phase 3 and phase 6 is displayed in Figure G.1., available in Appendix G.

Qualitative SMTQ outcomes from phase 3 were also compared to qualitative SMTQ outcomes in phase 6. In phase 3, chosen responses to the questionnaire and their affective



(positive/negative) wording highlighted 4 global themes linked to the SMTQ subscale themes of confidence, namely self-confidence (item 1); control, namely negative affectivity/emotional control (e.g., anxiety, item 2; worry, item 4; anger and frustration, item 7; and self-doubt, item 9); and constancy, namely attention and focus (item 10), and flexibility (item 14). Thematic analysis of the participant's responses in phase 6, compared to these particular themes identified in phase 3, were indicative of some positive changes: changes in the participant's confidence; changes in his experiences of anxiety, worry, anger, frustration, and self-doubt; changes in his feelings of being able to make decisions under pressure; and changes in his ability to regain his composure after momentarily losing it. However, his feelings of being easily distracted and losing concentration remained consistent. Items and their phase 3 and comparative phase 6 responses are illustrated in Table 5.

Table 5

*Comparative Phase 3 and Phase 6 Responses*

Subscale	Item	Phase 3 Response	Phase 6 Response
Confidence	2. I have an unshakeable confidence in my ability.	"Not at all true"	"Mostly true"
	13. Under pressure, I am able to make decisions with confidence and commitment.	"Not at all true"	"Mostly true"
	14. I can regain my composure if I have momentarily lost it.	"A little true".	"Mostly true"
Constancy	10. I get distracted easily and lose my concentration.	"Mostly true"	"Mostly true"
Control	2. I get anxious by events I did not expect or cannot control.	"Very true"	"Mostly true"
	4. I worry about performing poorly.	"Very true"	"Mostly true"
	7. I get angry and frustrated when things don't go my way.	"Very true"	"A little true"
	9. I am overcome by self-doubt.	"Very true"	"Mostly true"

These shifts in outcomes informed the development of the semi-structured interview. A qualitative SMTQ per-item comparison of phase 3 and phase 6 is displayed in Figure G.2., available in Appendix G.

#### **4.6.2 Semi-Structured Interview**

Thematic analysis was guided by the SMTQ's subscale themes (confidence, constancy and control). Three global themes were identified, namely mindset, flexibility, and mindfulness. Confidence was linked to the global theme of mindset, with its subthemes of self-affirmation, holism and practice. Constancy was linked to the global theme of flexibility, with its subthemes of wisdom and responsibility. Control was linked to the global theme of mindfulness, with its subthemes of present-focus, awareness and acceptance. Finally, mental toughness was linked to all the subthemes. Here, the participant provided his consolidated understanding of what he believes mental toughness to be. Thematic maps of phase 6 are displayed in Appendix J. A discussion of each global theme and its related subthemes follows.

##### *4.6.2.1. Mindset*

As noted, the theory of ability that an individual holds has an influence on an individual's self-confidence and belief in self-efficacy (Dweck & Molden, 2007; Niiya et al., 2004; Nussbaum & Dweck, 2008; Robins & Pals, 2002; Thelwell & Maynard, 2003). As self-confidence is considered an important part of mental toughness, it stands to reason that improvements in self-confidence will improve overall mental toughness (Beauchamp, Jackson, & Morton, 2012; Fourie & Potgieter, 2001; Weinberg, 2013).

In phase 3, the participant would react with intense affect to perceived failures, and appeared to feel that his competence, and even his self-worth, was dependent on perfect achievement within the sporting domain. This apparent "fixed-mindset" had various outcomes for the participant's cognitive, emotional and behavioural experiences. Individuals

who adopt an entity-theory and its subsequent performance goals, ability attributions and helpless pattern of responsiveness, can experience harm to their self-esteem and lower contingent self-worth (Niiya et al., 2004) The phase 6 semi-structured interview highlighted a change in the participant's approaches to skill-based tasks and a different set of cognitive, emotional and behavioural experiences. Where in phase 3, the participant would self-criticise when threatened, phase 6 brought self-affirmation. Where in phase 3, the participant's self-worth appeared tied up in sporting achievement, phase 6 saw the development of a holistic view of the self and mental toughness. Where phase 3 saw the participant blaming his "lack of mental toughness" for his difficulties, phase 6 saw the development of an element of patience and a belief in practicing mental skills. These sub-themes saw to the development of an incremental theory of ability/growth-mindset. Individuals who adopt an incremental theory and its resultant learning goals, effort attributions and mastery-oriented responses, can experience increased self-esteem and contingent self-worth (Dweck & Molden, 2007; Niiya et al., 2004, Nussbaum & Dweck, 2008):

"I think what stood out is that it is possible to change and train your brain. It is possible to develop a growth-mindset and that this whole thing is a growth-mindset type of thing...there's a chance of me failing, but...I'm okay. And I'm going to give it a shot...Every time I feel I'm not clinging on my breaks so much anymore, and sometimes you do get overconfident because of your lack of skill. But you're not going to get that skill if you don't fall or whatever, you need to sometimes fall. Just get back on again."

#### *Self-Affirmation*

Self-affirmation has a positive influence on an individual's perception of and behaviour to adverse events (Sherman & Cohen, 2006) and can enhance an individual's feelings of self-efficacy, protecting the self-concept from threat (Schmeichel & Vohs, 2009). Overall, self-

affirmation has the added benefit of heightening an individual's enjoyment of experiences and enhancing functioning, and like mental toughness, increasing an individual's experiences of well-being (Nelson, Fuller, Choi, & Lyubomirsky, 2014; Stamp et al., 2015).

In phase 3, the participant would berate himself at the first perception of impending failure through bullying. In phase 6, he noted a change in the way he responded after the engagement with the psychoeducational programme:

"Then I give myself positive reinforcement. I'll say: "you do deserve stuff, you do deserve love, you are attracting light and you're radiating love, today you are going to be positive, you are going to be a better person today, you are going to be happy, you are going to be fun, you are going to be loving you are going to be caring. You really are caring, you are loving, you are all the stuff already. Something great is going to happen today."

Like just affirming who I am...Accepting that and realising it and also then saying stuff about what you want to be."

#### *Holism*

Contingencies of self-worth regulate behaviour, shape goal-setting, influence motivation and can be a source of vulnerability (Crocker & Knight, 2005). Where in phase 3, the participant tied his self-worth into the domain of sporting achievement and experienced a low average sense of self-confidence as a result of not being able to always display competence in this domain, the participant appeared to start seeing himself as an individual with more to offer, carrying his view of mental toughness into other achievement contexts (Clough et al., 2002) and allowing the participant to seek out other opportunities for personal growth (St Clair-Thompson et al., 2014).

"It's not just a sporting thing. Your mind is your mind. If your mind or brain works one way off the athletics field or off the bike, it's not going to

work a different way when you're on the bike...So why must I just think a certain way when I'm doing sport? Why can't I think that way and be that way away from the bike, away from sport and away from swimming and stuff?...And I think if you almost have that - your personal soul and that side of you - cleared and clutter free, it's going to translate and radiate into your sport... You can't just be mental toughness here, but then why are you lacking mental toughness somewhere else?"

This was congruent with assertions by authors that mental toughness is a relatively stable personality trait that is displayed across various contexts and is not just applicable to sporting performance (Gucciardi, Hanton, Gordon, Mallett, & Temby, 2014; Nicholls et al., 2009)

### *Practice*

The historical view of relying on physical talent is becoming increasingly outdated (Dweck, 2009; Ericsson & Charness, 1994; Gardner & Moore, 2007; Harmison, 2006; Harmiston & Casto, 2012). As mentioned, when individuals believe in developable traits and are oriented toward competence acquisition, they believe that effort is the key to success (Dweck, 2006; Dweck & Molden, 2007; Nussbaum & Dweck, 2008). What stood out for the participant was the importance of continued effort, and the knowledge that he could not become complacent now that he had experienced some positive changes:

"I think just knowing that you have to practice this...[It's] part of that self-study, you have to practice it, it's what you want it to be. But the thing is now, that constant practice now. This was now one race, where I'm eager, I'm fresh do all of this...Maybe my next race something else happens and I just [think/say]: "...I don't feel like this. I feel like being negative today." And I think that's going to be the true test and that's going to be the true key. It's to keep on practicing, keep on practicing."

#### 4.6.2.2. Flexibility

In phase 3, the participant's responses were indicative of a vulnerability to inflexible responses when adversity would strike (cf. 4.3.2.3). His responses were congruent with a fixed-mindset's "helpless pattern" of responsiveness (Dweck, 2006; 2009; Kamins & Dweck, 1999). This inflexible application of emotion-focused/helpless responses to setbacks and its excessive/inappropriate emotional experiences and expressions (Goldsmith & Davidson, 2004), would overwhelm the participant. In phase 6, however, it appeared that the participant had changed his approach to the more problem-focused coping style that is associated with mental toughness (Kaiseler et al., 2009) and a growth-mindset (Dweck, 2006; Dweck, 2009):

"20km into my race it wasn't lekker...At that stage you'd usually get into a panic...and I just thought to myself: "no don't push this, you're going to raise your heart rate just [keep a] nice tempo...and then 40ks into the race my shoe broke, the strap of my shoe... Again, [I] didn't stress, [I] just stopped and tightened the bottom two [straps] then I said: "okay it's one of those things, if you just stay here, what happens, happens."... And there was a downhill and I dropped my chain...[I] Put it on, once again I didn't stress when my chain dropped, I didn't [think]: "ah flip rush [x3]!" I just thought: "okay this happened now", where in the past I would have [thought]: "*Bliksem! Moer!*"

#### *Wisdom*

In phase 3, the participant appeared to be overly concerned over possible mistakes, as mistakes would indicate a lack of competence (Dweck, 2006; Stoeber, 2011; Stoeber et al., 2007). In phase 6, the participant seemed to be more open to taking risks associated with mentally tough decision making (Crust & Keegan, 2010) in order to push himself past his comfort zone. His changes in decision making included the concept of wisdom:

“But it’s also knowing when to push through...It’s not stupidly over-pushing things and pushing through things...Knowing when to push through something and making that discretion [between] when it is worthwhile to go and when to step off.”

### *Responsibility*

Taking responsibility for oneself and one’s development has been found as a theme within the mental toughness literature (Bull, Shambrook, James, & Brooks, 2005; Connaughton et. al., 2010; Sheard, 2010; Sheard et al., 2009), and is also a characteristic of a growth-mindset (Dweck, 2006). A salient theme within the phase 6 discussion, was the participant’s assertion that change cannot be sustained if it is spoon-fed, and that it can only be maintained if it is practiced responsibly:

“[If] I go through [the programme] again and again, then it will almost become a self-study as I want to find out more...For now [the programme] is enough, but maybe next week I want something more out of it, then I want to know deeper...almost more as your mind awakens, or your soul...You [the researcher] can sit here, you can just give me everything, and you can just spoon-feed me all you want, but as soon as I’m doing self-study, I’m actually doing something from my side to heal myself...They can tell you this and that, and it’s all their knowledge and all their stuff, but when you’re actually studying it for yourself, then it’s becoming your knowledge. That’s what I like about this workbook idea...because then it is prompting self-study and you working on it...you’re accountable...you give the workbook and then it’s up to me...I can’t put all the ownership on you...You can’t change anything in me, you can just give me input...but ultimately the responsibility...it’s up to me to apply it...“You’re not going

to get it all in a week, you're not going to get it all in a day, you have to have patience with it. You know what I'm saying? I can bet you that there's probably going to be a week to come where I'm going to have a total relapse but it's about coming out of that relapse again..."

#### 4.6.2.3. *Mindfulness*

The ability to remove attentional focus from past events (e.g. past failures) and future expectations (e.g. anxiety-provoking anticipation) frees the cognitive resources required for task-specific attending (Gardner & Moore, 2007), promoting behaviours that display novelty seeking, flexibility and engagement, and as such enhancing the mental skills required for heightened attentional -and emotional control (Kee & Wang, 2008).

Although the participant's response to the SMTQ item that measured his self-reported ability to maintain his focus remained constant, items that measured his self-reported ability to control his emotions showed slight improvement, and he appeared to develop the ability to decide what would influence him during a race or not, experiencing emotions as "cars driving by". This was in contrast to his feelings of having no control in phase 3:

"You don't have to let off-the-sport-stuff affect your sport either. Then that's just coming back to controlling your emotions, controlling your mind...Knowing that things are temporary, thoughts and emotions, accepting that sometimes you're going to have a bad day and that it doesn't define you, but to be mindful...I think it is being more in control of your own emotions and thoughts, being focused on the task at hand...here comes a thought, [it] pops in like a car driving past...Don't always cling to that...being able to let go of a negative emotion, come back to the present, and staying focused."



### *Present-focus*

Support exists for mindfulness as having a mediating effect on stress and state anxiety (Perry et al., 2017; Tang et al., 2007). This appeared to ring true for the participant, with him noting how being in the here-and-now had a positive influence on the his pre-event and in-event experiences:

“I just got a bit emotional and just had a bit of a breakdown, and then just went home. Then my emotions just took complete control over me and two hours later I realised: “okay, whatever” and I thought: “Oh *shit* I’m going to have a terrible race tomorrow now that all of this is in my system”. And I woke up the next day and I said: “let’s just go out there and that’s the goal, today were just going to have fun and we’re just going to stay focused and that’s all we think about - being in the now, being in the race and just letting what happens happen.” And I had a good race and I stayed focused, stayed controlled...before the race and stuff and even before I went to that hill, I said: “your legs are going to hurt, you’re going to get hurt it’s going to be tiring, just embrace it, expect it and embrace it”, and that’s what I did...You’re not the only person that feels that way...you don’t know what’s happening behind you. So it’s just staying in the now, you know?”

### *Awareness*

A sense of self-awareness has been linked to higher levels of mental toughness (Cowden, 2017). The participant described this sense of “being in the now” as having such an element of awareness to it:

“Knowing, being aware of the race situation but not stressing about it... But just taking all the scenarios into account that could be happening...Knowing what’s happening around you in nature as well -

what's happening next to the road, what were you going past...be aware of the consequences of your actions...but still having the balls to do it.”

### *Acceptance*

Jones and Moorhouse (2007) note that mentally tough athletes are able to focus and sustain their attention by being mindful, focusing on the particular processes of the task, and focusing only on things that are within their control. The participant felt that once things happened “in the now” that were outside of his control, or that threatened to throw him off course, he could respond with acceptance of the experience as it is, without necessarily trying to control it as rigidly as he did in phase 3. This sense of acceptance also brought the knowledge that things may not always be perfect, but there will be an opportunity to move forward:

“Just realising okay, whatever, it's there, just go with it, just go with the flow. *Ja*, not to suppress those feelings. Maybe, I think that's what I was doing...it's always been the thing in the past. I've always been “*ja* accept your emotions but you let it control you.” [But now I] have it there, but don't allow it to control [me]. Just work through it, let the process take its course...just centre yourself, pray, whatever it takes. That's one thing that I feel that I have improved with...If he catches me or doesn't, if I blow out I blow out, what happens, happens.”

### **4.6.3 Mental Toughness**

The combined themes had a golden thread that ran through it – the notion of mental toughness and the participant's renewed ability to affirm the self; to see himself as more than just an athlete; to have the discipline to practice mental skills; to make wise decisions; to take responsibility; and to apply the mindfulness to be present, be aware and accept what cannot be controlled. Although many definitions exist within the historical and contemporary mental

toughness literature (cf. Chapter 2; Connaughton & Hanton, 2009), the participant provided his own definition of what he believes mental toughness to be now that he had practiced new skills and perceived changes:

I think it is being more in control of your own emotions and thoughts, being focused on the task at hand...being able to let go of a negative emotion, come back to the present and staying focused. That endurance, grit...I think it's grit and growth-mindset...and when things aren't working out for you, knowing that it's not the end of the world. Even the most mentally tough person has a bad day, but he knows that that doesn't define him. I think that's often what I thought. I'd get an angry thought and hold on to that anger for a whole day and then become an angry person, or believe [I'm] an angry person or believe [I'm] quick tempered, because [I] hold on to those thoughts...deal with it for that brief moment, but don't let that define the rest of your day. That's why you must centre yourself...just pushing through and enduring...Just because something isn't there, keep going, it will come. Just believing and just putting it out there to the universe...almost having good mental wellness...Then when the going does get tough and you are in the boiling water, to not give up. To be able to stay focused when you're in the boiling water...Overcoming pressure, negativity, and overcoming yourself...Not other people...other people will be other people, you'll always be you. You're just doing what you must do. Overcoming your own limitations and your own thoughts..."

#### **4.7 Summary**

After the participant engaged in the programme for the agreed-upon time period (cf. section 4.4 and 4.5), the final contact session was held in which the participant completed the

SMTQ and engaged in a semi-structured interview with the researcher to provide feedback on his experiences.

Overall improvements were noted in the SMTQ scales of confidence and control. Qualitative exploration of the SMTQ indicated changes in the participant's confidence; changes in his experiences of anxiety, worry, anger, frustration, and self-doubt; changes in his feelings of being able to make decisions under pressure; and changes in his ability to regain his composure after momentarily losing it. However, his feelings of being easily distracted and losing concentration remained consistent.

Analysis of the SMTQ informed the development of a semi-structured interview. Thematic analysis of the semi-structured interview highlighted three global themes: mindset, flexibility and mindfulness. Subthemes related to the global theme of mindset were self-affirmation, holism, and practice. Subthemes related to the global theme of flexibility were wisdom and responsibility. Subthemes related to the global theme of mindfulness were present-focus, awareness and acceptance.

Outcomes from the exploration of these themes indicated that the participant had improved in his ability to affirm the self; had started seeing himself as more than just an athlete; had seen the value in being disciplined in practicing mental skills; had started to learn how to make wise decisions; had shifted from blaming others to taking responsibility; and had started to apply the mindfulness to be present, be aware and accept what cannot be controlled. In summary, the participant appeared to adopt a growth-mindset (Dweck, 2006; 2009)\_and learnt skills associated with mindfulness (Gardner & Moore, 2007). Overall, this appeared to increase his ability to approach events with flexibility, confidence, and a fearless attitude. The participant's self-reported level of mental toughness improved, along with his subsequent race experience.

The participant noted that he had found the programme useful in terms of its mode of delivery (psychoeducation) and its content, in particular finding the information on mindsets and mindfulness applicable to his needs. He felt that the programme was useful in placing the onus of responsibility on his shoulders. He felt that the programme was transferable to his context as coach.

## **Chapter 5: Conclusion**

### **5.1 Introduction**

Mental toughness and its array of underpinning psychological constructs has become a buzzword in sporting contexts. The held belief is that a strong mind will be what catapults an athlete's performance past that of competitors who have similar levels of physiological skill. For this reason, applied sport psychology is awash with practitioners who implement Psychological Skills Training programmes in an effort to develop and maintain the levels of motivation, confidence, attentional focus and emotional control associated with consistent peak performance. Recently, authors have begun to suggest that although traditional skills-based approaches have proven their usefulness, there's room for the inclusion of more strength-based approaches to develop and maintain mental toughness (Gucciardi & Gordon, 2011).

Within a South African context in particular, where there are no clearly delineated scopes of practice for sport psychology practitioners and where the demographics of the country are exceptionally diverse (11 national languages, a variety of cultures, and a complex political history that has left its socio-economic mark), it is necessary to explore a variety of approaches to ensure that interventions remain contextually relevant and accessible to the sporting population.

With this in mind, the current study aimed to contribute to the existing literature on mental toughness programmes through its goal of documenting the process of developing and implementing a psychoeducational mental toughness programme, and evaluating the programme through exploring the participant's subjective experience of such a programme.

As such, a mental toughness programme was developed, implemented and evaluated within the structure provided by Anderson et al.'s (2002) model for evaluation of applied sport psychology interventions. This saw the introduction of the participant in phase 1; the

discussion of the participant's individualised assessment in phase 3; the discussion of the rationale for the development of the mental toughness programme in phase 4; the discussion of the programme implementation in phase 5; and the discussion of the evaluation of the programme through exploring the participant's subjective experience of such a programme in phase 6.

## **5.2 Outcomes**

In phase 3, the participant displayed themes of perfectionism; self-criticism; difficulty with making decisions; difficulties controlling emotion; a negative attitude; distraction by outside influences; the application of cognitive biases; and unrealistic goal-setting. As the collated information was strongly suggestive of a fixed-mindset and resulted in the participant fostering perfectionism in order to attain and display competence, the participant's difficulties were conceptualised according to Shafran, Egan and Wade's (2010) revised cognitive model of clinical perfectionism. The programme, based on an eclectic approach, included information on perfectionism, performance and cognition, and relied on educating on strength-based approaches such as mindsets, mindfulness, and goal-setting. It also included a homework-section which aimed to encourage the participant to further engage with the programme. The programme in its totality was practiced by the participant for seven days after implementation, after which feedback was provided on his experience of the programme.

In phase 6, overall improvements were noted in the SMTQ scales of confidence and control. Qualitative exploration of the SMTQ and semi-structured questionnaire in phase 6, juxtaposed to difficulties highlighted in phase 3, indicated changes in the participant's confidence; changes in his experiences of anxiety, worry, anger, frustration, and self-doubt; changes in his feelings of being able to make decisions under pressure; and changes in his ability to regain his composure after momentarily losing it. However, his feelings of being

easily distracted and losing concentration remained consistent. Based on feedback received from the participant, he had improved his ability to affirm the self; had started seeing himself as more than just an athlete; had seen the value in being disciplined in practicing mental skills; had started to learn how to make wise decisions; had shifted from blaming others to taking responsibility; and had started to apply the mindfulness to be present, be aware and accept what cannot be controlled. In summary, the participant appeared to adopt a growth-mindset, increasing his ability to approach events with flexibility, confidence, and a fearless attitude. The participant's self-reported level of mental toughness improved, along with his subsequent race experiences.

The participant's overall experience of the programme was positive. In his opinion, the mindfulness exercise and information on mindsets, as well as the psychoeducational structure of the programme provided the biggest benefits. He noted that he was able to train his brain and take ownership of his personal growth, and felt that he could see himself taking the programme and applying it in his own coaching practices.

### **5.3 Limitations**

Due to the research adopting a qualitative dominant stance, and not seeking to provide information on cause and effect, it was not possible to provide a generalisable link between the implementation of the psychoeducational mental toughness programme and the outcomes of the study, as the design of the research did not attempt to control for extraneous variables (e.g. possible self-study after initial consultation and conceptualisation, prior to the implementation of the programme; other life-experiences improving a sense of mental toughness; an increase in perceived support from social networks and from the researcher).

As such, the data was based on the participant's memory of events, creating the possibility that inaccurate memories or biased recall influenced outcomes. Finally, the self-report nature of SMTQ necessitates the consideration that the participant may have taken an



overly positive approach to completing the SMTQ in phase 6, due to heightened levels of excitement after the implementation of the programme.

#### **5.4 Opportunities for Future Research**

Due to the scope of the current research, some information was not included in the outcomes. As an example, the participant mentioned in phase 3 that he felt a sense of being socially unsupported, both professionally (i.e. reliable coaching) and personally (i.e. support from family and friends). In phase 6, the participant noted the supportive value of engagement with a professional around psychological topics. Support and motivational climate have been noted as important factors in the development of mental toughness (Connaughton et al., 2008). As such, an opportunity exists to explore ways of improving an athlete's perceived support, possibly through adopting a holistic systems-approach where social influencers (such as coaches or family members) are also included in mental toughness interventions.

Secondly, the assessment, conceptualisation, development and administration of the psychoeducational mental toughness programme and the feedback encapsulated in this research occurred in five contact sessions. In particular, the administration of the programme occurred in one contact session. Traditional Psychological Skills Training packages, as with traditional therapeutic interventions, generally occur over a longer time period and therefore afford ample opportunity for further exploration of particular difficulties or requirements from clients. Outcomes from the limited contact displayed in this research appear to be tentatively positive, and may provide future opportunities for research to further explore the efficacy of shorter-term or limited-contact interventions. This may hold particular benefit for the South African context, as the socio-economic climate may prohibit easy access to more mainstream applied sport psychological services (Edwards & Steyn, 2008).

Furthermore, as the research adopted a qualitative-dominant mixed methods approach, triangulating standardised and thematic data from the SMTQ and semi-structured interviews, an opportunity exists for a longitudinal pre-test post-test experimental design with more participants, to enhance the generalisability of the findings and to provide further opportunity for the development and evaluation of strengths-based, applied programmes.

Finally, the conceptualisation of the participant's difficulties has created a possible opportunity to further explore the interaction between perfectionistic strivings and overall mental toughness.

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## Appendix A



**RHODES UNIVERSITY**

*Grahamstown • 6140 • South Africa*

**Department of Psychology**

### Psychological Research Participation – Informed Consent

I confirm that prior to engaging in this research process, I was given or referred to sufficient information to understand the nature of the research process and the agreement between the student researcher and myself (the research participant). The information included the nature of the research, the student researcher's professional identity, possible risks and/or benefits of participating in the research, the nature of confidentiality – including legal and ethical limits, and alternative treatments available.

I, \_\_\_\_\_ (participant's full name) agree to participate in the research project of **Marle Coertzen** (researcher's full name) on **mental toughness psychoeducation in a novice triathlete** (short title of research).

I understand that:

1. The researcher is a student conducting the research as part of the requirements for a Master's degree at Rhodes University. The researcher may be contacted on **082 398 0627** or [marlebekker@yahoo.com](mailto:marlebekker@yahoo.com). The research project has been approved by the relevant ethics committee(s) and is under supervision of Mr. **Gary Steele** in the Psychology Department at Rhodes University, who may be contacted on **0466038504** or [g.steele@ru.ac.za](mailto:g.steele@ru.ac.za).
2. The researcher is interested in documenting the process of the development and implementation of a psychoeducational mental toughness for a novice triathlete, and to assess the novice triathlete's experience of the programme in terms of strengths, weaknesses and suggestions for improvement.
3. My participation will involve the following:
  - Completion of the Sports Mental Toughness Questionnaire;
  - Participation in a semi-structured interview;
  - Participation in the developed psychoeducational programme;
  - Another completion of the Sports Mental Toughness Questionnaire; and
  - Participation in a final semi-structured interview.
4. I may be asked to answer questions of a personal nature, but I can choose not to answer any questions about aspects of my life which I am not willing to disclose.

5. I am invited to voice to the researcher any concerns I have about my participation in the study, or consequences I may experience as a result of my participation, and to have these addressed to my satisfaction. The **Rhodes Psychology Counselling Centre** may be contacted for further support on **0466037070**, or the **Rhodes University Psychology Clinic** may be contacted on **0466038502**. In addition, I will also be provided with a list containing the names and contact numbers of registered psychology professionals who are practicing in Grahamstown.
6. I am free to withdraw from the study at any time without having to provide any further explanation, but will do my best to participate fully.
7. The report on the project may contain information about my personal experiences, attitudes and behaviours, but the report will be designed in such a way that it will not be possible for me to be identified by the general reader.
8. Data collection will include the use of a tape recorder, but this information will be stored on a password protected compact disk for educational purposes. Data will not be made available for re-use in another research study, but may be used for publication of the research study's findings.

**Signed on (Date):**

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---

**Participant**

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**Marle Coertzen**  
**Student Researcher**

## Appendix B

**Rhodes University — Department of Psychology**

### USE OF TAPE RECORDINGS FOR RESEARCH PURPOSES PERMISSION AND RELEASE FORM

Name of participant			
Participant's contacts details	Email address: Phone number:		
Name of researcher			
Level of research	Honours	Masters	PhD
Brief title of project			
Name of supervisor			

#### DECLARATION

*(Please initial/tick blocks next to the relevant statements)*

1.	The nature of the research and the nature of my participation have been explained to me.	verbally	
		in writing	
2.	I agree to be interviewed and to allow recordings to be made of the interview.	audiotape	
		videotape	
3.	I agree to _____ and to allow recordings to be made.	audiotape	
		videotape	
4.	The tape recordings may be transcribed	without conditions	
		only by the researcher	
		by one or more nominated third parties	
5.	I have been informed by the researcher that the tape recordings will be erased once the study is complete and the report has been written.  OR I give permission for the tape recordings to be retained after the study and for them to be utilised for the following purposes and under the following conditions		

Signature of participant: \_\_\_\_\_

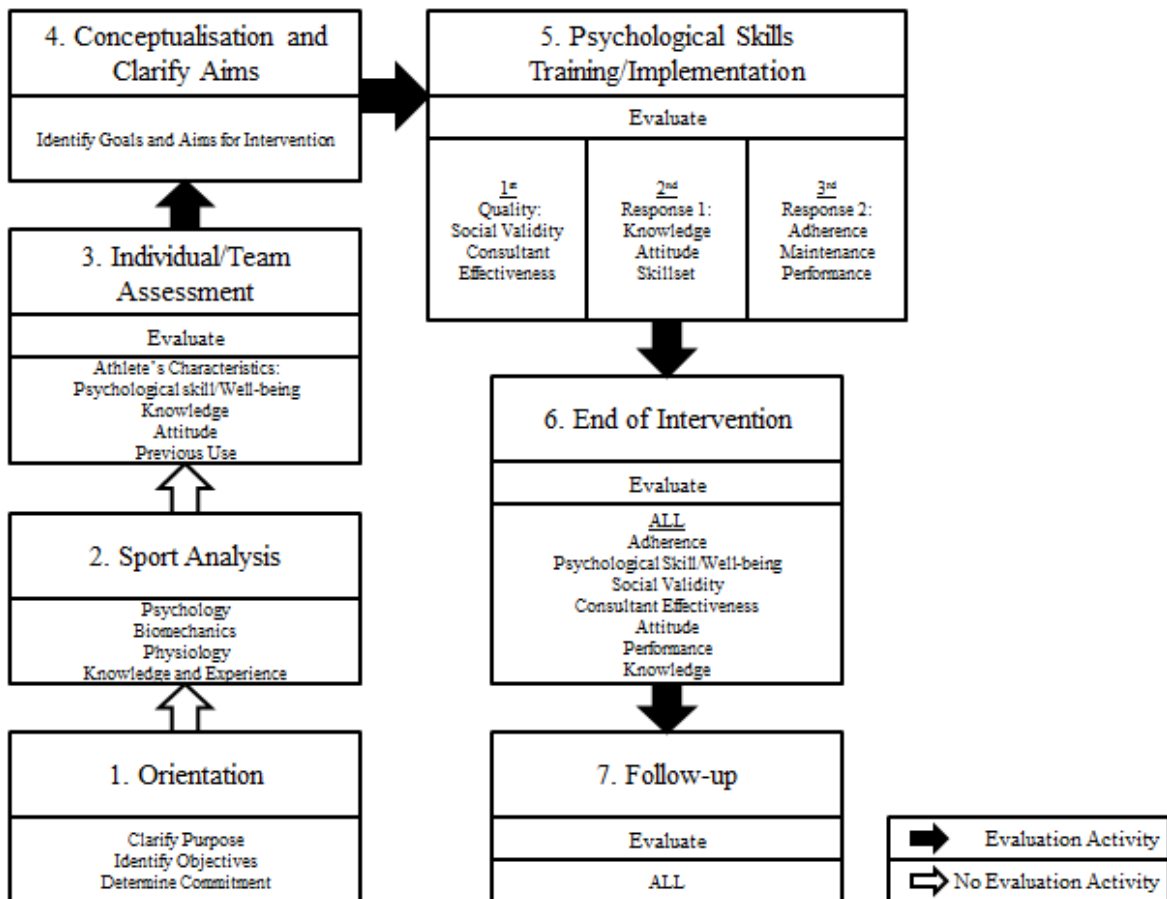
Date: \_\_\_\_\_

Witnessed by researcher: \_\_\_\_\_

Date: \_\_\_\_\_

## Appendix C

■ **Figure C.1.** Model for the Evaluation of Applied Sport Psychology Practice



*Note.* Reproduced from “Evaluating the Effectiveness of Applied Sport Psychology Practice: Making the Case for a Case Study Approach”, by A.G. Anderson, A. Miles, C. Mahoney and P. Robinson, 2002, *The Sport Psychologist*, p. 432-453. Copyright 2002 by Human Kinetics



## Appendix D

Table D1

### *Phases of thematic analysis*

Phase	Description of the process
1. Familiarising yourself with your data:	Transcribing data (if necessary), reading and re-reading the data, noting down initial ideas.
2. Generating initial codes:	Coding interesting features of the data in a systematic fashion across the entire data set, collating data relevant to each code.
3. Searching for themes:	Collating codes into potential themes, gathering all data relevant to each potential theme.
4. Reviewing themes:	Checking if the themes work in relation to the coded extracts (Level 1) and the entire data set (Level 2), generating a thematic ‘map’ of the analysis.
5. Defining and naming themes:	On-going analysis to refine the specifics of each theme, and the overall story the analysis tells, generating clear definitions and names for each theme.
6. Producing the report:	The final opportunity for analysis. Selection of vivid, compelling extract examples, final analysis of selected extracts, relating back of the analysis to the research question and literature, producing a scholarly report of the analysis.

*Note.* Reproduced from “Using Thematic Analysis in Psychology”, by V. Braun and V. Clarke, 2006, *Qualitative Research in Psychology*, 3, p. 87. Copyright 2006 by Taylor & Francis.

## Appendix E

### Semi-Structured Questionnaire – Phase 3

The SMTQ has highlighted the following themes:

- Difficulties in self-confidence, e.g. not believing in his abilities and his self-efficacy. Although he is competent, he struggles to reveal this competence because of his low self-confidence. Themes of hesitance and uncertainty are apparent.
- Difficulties in coping with pressure, e.g. difficulties in remaining composed, being accepting of change and events out of his control, controlling his emotion and being adaptable;
- Difficulties in attentional focus, e.g. difficulties in focusing his attention on cues in the environment and keeping that focus, related to difficulties in being adaptable.

In relation to these themes, the following questions may be asked to assist in gathering information about the participant's thoughts, cognitions and behaviours related to motivation, self-confidence, coping with pressure and attentional focus:

1. Tell me about your sporting history?
2. What has been the most significant sport-related success in your life?
3. What has been the greatest sport-related loss in your life?
4. You mentioned that you completed school in Graaff-Reinet and that you went on to study at the University of the Free State in Bloemfontein. How did you experience moving away from your home town?
5. How do you experience studying through UNISA, working full time and training?
6. You mentioned that you had experienced a "break in life", could you tell me a little more about that?
7. Who supports you, and what does "support" mean to you?
8. What does "confidence" mean to you?
9. What are your strengths?
10. What are your weaknesses?
11. How are professional athletes different from you?
12. What does it mean to you to "perform poorly"?
13. When things go wrong during training or a race, what do you do?

14. What would you like to achieve?
15. How do you plan on achieving this?
16. What thoughts do you have, or what do you tell yourself, when you do not reach a goal?
17. What thoughts do you have, or what do you tell yourself, when you reach a goal?
18. Which emotions do you experience when you do not reach a goal?
19. Which emotions do you experience when you reach a goal?
20. What types of thoughts you have the day before an event?
21. What types of thoughts do you have on the day of an event, right before the event starts?
22. What types of thoughts do you have on the day of an event, during the event?
23. How do you motivate yourself to train?
24. In the past you have mentioned that you struggle to handle pressure. Could you tell me a little more about what pressure feels like to you?
25. Imagine yourself winning a very difficult triathlon, such as the full Iron Man. You are standing on the podium and receive your prize for first place. Could you tell me about what you think you would be experiencing?
26. Do you have any sporting rituals?
27. Imagine that you are taking part in a very important race. Suddenly, while you are cycling, your tyre bursts and you have a painful fall. You catch your breath and start to replace the inner tube, but realise as you pump the tyre that the tube has a hole in it. What happens next?

## Appendix F

### Semi-Structured Interview – Phase 6

Outcomes from the first SMTQ were indicative that you may be more vulnerable to negative affectivity (i.e. the likelihood of experiencing negative emotions and poor self-concept). Thematic analysis of your chosen responses to the questionnaire and their affective (positive/negative) wording highlighted 4 global themes, namely self-confidence (item 1); negative affectivity/emotional control (e.g. anxiety, item 2; worry, item 4; self-doubt, item 9; anger, item 7; and frustration, item 13); difficulty remaining attentive and focused (item 10); and difficulty being flexible (item 14). This assisted with the development of the first semi-structured interview. Outcomes from that interview helped me to develop a psychoeducational mental toughness programme.

After implementation, you completed another SMTQ, which highlighted the following themes:

- Changes in your feelings of confidence;
- Changes in your experience of control;
- A decrease in your experience of constancy.

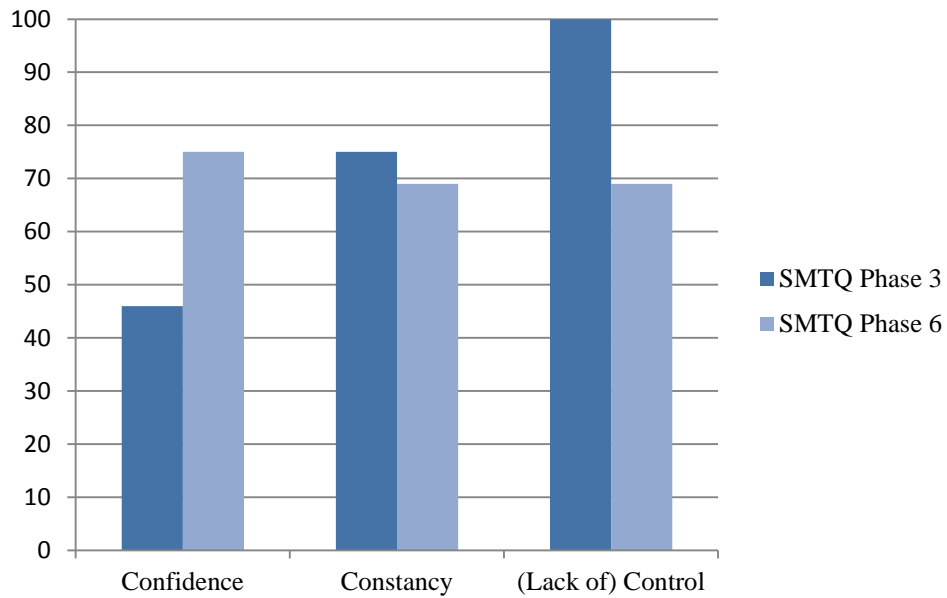
Let's explore these themes and your experience of the psychoeducational programme.

1. During implementation of the programme, we discussed perfectionism, cognition, mindsets, mindfulness and goal-setting. Were there any particular topics that you found interesting/useful?
2. Were there any particular topics that you found uninteresting/not useful?
3. Do you feel that there may have been some areas, given the outcomes from the first round of data collection (i.e. self-confidence, negative affectivity, emotional control, attention and focus, flexibility) that you needed more information on?
4. What stood out for you about the programme?
5. What are your thoughts about the delivery of the programme in terms of:
  - a. Using education instead of meeting with you more often and being more involved as a practitioner?
6. Do you have any additional thoughts about changes you would have made?
7. After implementation of the programme, have you noticed any differences in the way you approach activities?

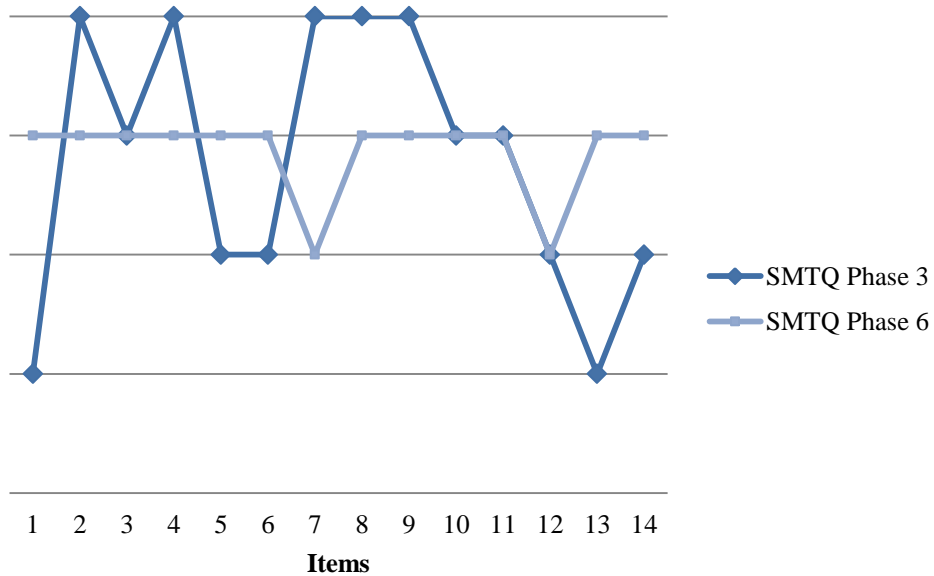
8. Would you recommend an approach like this, i.e. psychoeducation on topics that relate specifically to the individual, to other athletes?
9. Do you think, going forward, that you will incorporate some of this information into the way you approach activities?
10. What does “confidence” mean to you?
11. What are your strengths?
12. What are your weaknesses?
13. How are professional athletes different from you?
14. What does it mean to you to “perform poorly” now?
15. When things go wrong during training or a race, what do you do?
16. What would you like to achieve?
17. How do you plan on achieving this?
18. What thoughts do you have, or what do you tell yourself, when you do not reach a goal?
19. What thoughts do you have, or what do you tell yourself, when you reach a goal?
20. What does Mental Toughness mean to you now?
21. Which emotions do you experience when you do not reach a goal?
22. Which emotions do you experience when you reach a goal?
23. What types of thoughts you have the day before an event?
24. What types of thoughts do you have on the day of an event, right before the event starts?
25. What types of thoughts do you have on the day of an event, during the event?
26. How do you motivate yourself to train?
27. In the past you have mentioned that you struggle to handle pressure. Could you tell me a little more about what pressure feels like to you now?
28. Imagine yourself winning a very difficult triathlon, such as the full Iron Man. You are standing on the podium and receive your prize for first place. Could you tell me about what you think you would be experiencing?
29. Do you have any different sporting rituals now?
30. Imagine that you are taking part in a very important race. Suddenly, while you are cycling, your tyre bursts and you have a painful fall. You catch your breath and start to replace the inner tube, but realise as you pump the tyre that the tube has a hole in it. What happens next?

**Appendix G**

■ **Figure G.3.** Qualitative Subscale Comparison of Phase 3 and Phase 6 SMTQ Outcomes

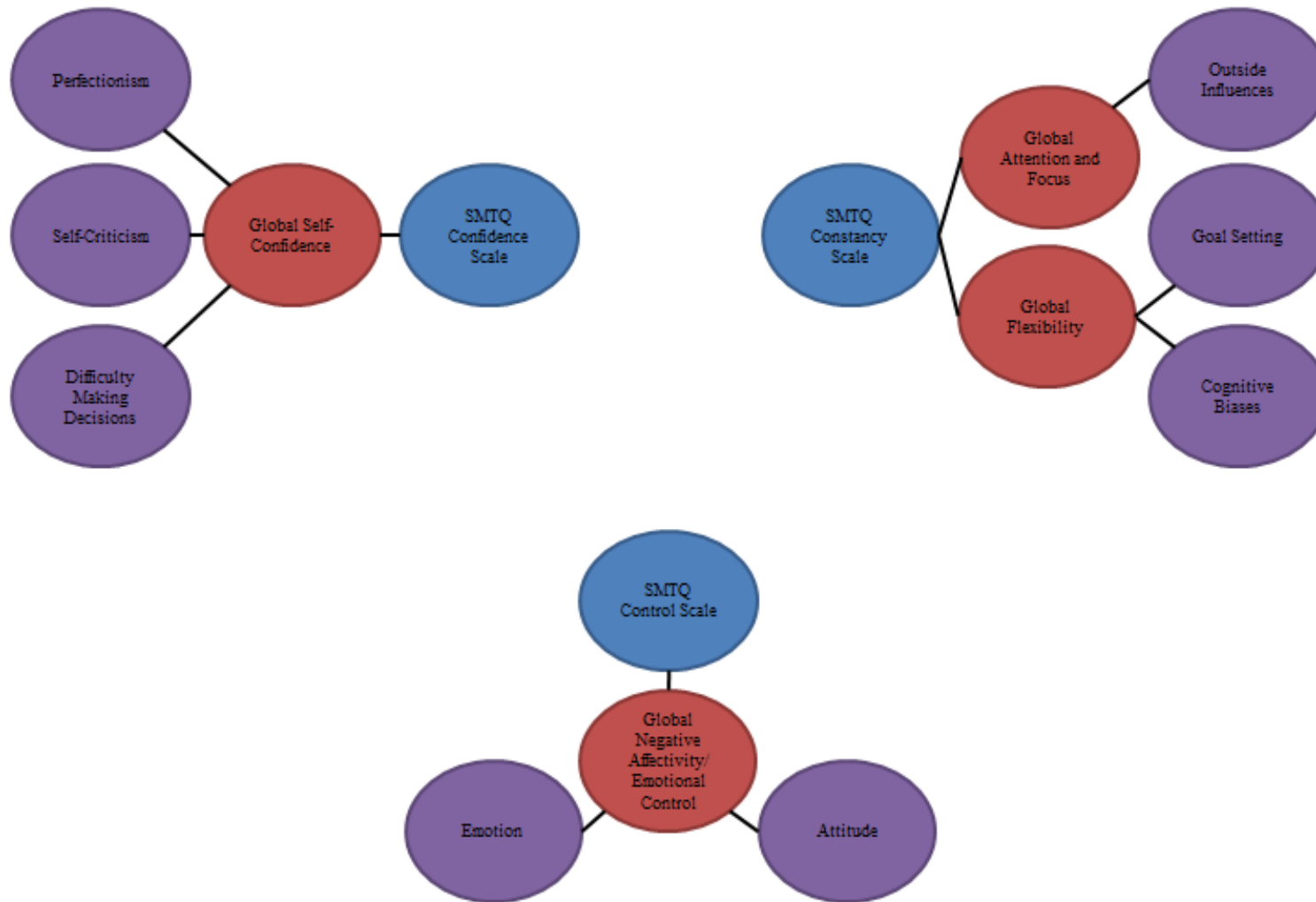


■ **Figure G.4.** Qualitative Per-Item Comparison of Phase 3 and Phase 6 SMTQ Outcomes

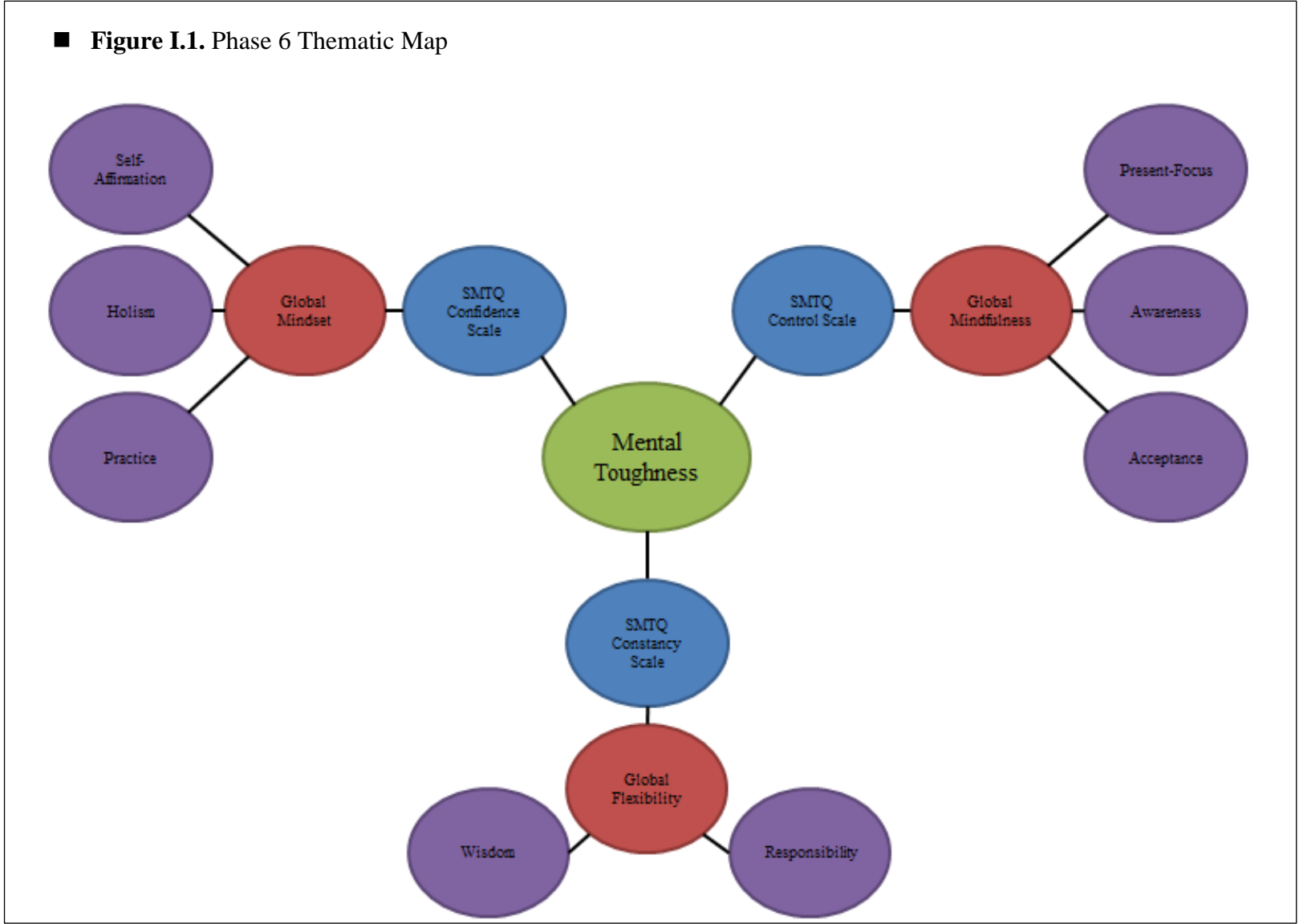


### Appendix H

■ **Figure H.2.** Phase 3 Thematic Map



### Appendix I





Appendix J

**Mental Toughness**



**Psychoeducational Workbook**

***“Mental toughness is having the natural or developed psychological edge that enables you to: generally, cope better than your opponents with the many demands (competition, training, and lifestyle) that sport places on a performer; [and] specifically, be more consistent and better than your opponents in remaining determined, focused, confident, and in control under pressure”***

(Jones, Hanton, & Connaughton, 2002)

***“People who become champions aren’t necessarily more gifted than others; they’re just masters at managing pressure, tackling goals, and driving themselves to stay ahead of the competition”***

(Jones, 2008, p. 123)

***“Mental toughness is the ability to be more consistent and better than one’s opponent by remaining determined, focused, confident and in control when under pressure”*** (Madrigal, Hamill,

& Gill, 2013, p. 63)

# Preface

---

The purpose of this performance workbook is to assist you to self-practice the skills learnt during the implementation of the psychoeducational programme.

It contains the information discussed during implementation, and aims to provide an opportunity for you to actively engage with the information (as opposed to being a passive recipient of knowledge).

The psychoeducational programme and its accompanying workbook does not intend to act as an explicit performance enhancing tool, but aims to provide you with knowledge so that you may further your personal growth in terms of mental toughness, whether on your own (through self-help or other personal engagement strategies) or together with other professionals (e.g. psychologists, coaches, etc.).

The workbook is tailored to your needs, as identified by the analysis of the Sports Mental Toughness Questionnaire (SMTQ), as well as a semi-structured interview conducted with you. The workbook is structured as an initial 7-day period of active engagement including a day-by-day space for written reflection, followed by a 3-day period of personally working with what you've learnt, without necessarily having to use the workbook again (however, if you wish to do so you are more than welcome).

After completing the workbook you will be asked to complete another round of the SMTQ and another semi-structured interview as a further opportunity for you to provide your subjective feedback on the programme.

# Background

This workbook was developed from outcomes from the Sports Mental Toughness Questionnaire (SMTQ) developed by Sheard, Goldby & van Wersch (2009), which informed the development of a semi-structured interview aimed at gathering more in-depth information on the themes covered in the SMTQ. This information was then collaboratively conceptualised in a model reproduced from Shafran, Egan & Wade (2010), to place the information in a manageable, focused structure and to further guide the development of the psychoeducational programme. Outcomes from the SMTQ and the semi-structured interview are discussed in the following section, and the conceptualised model is provided.

## Sports Mental Toughness Questionnaire

Analysis of the standard scoring of the SMTQ has indicated a “little true” sense of self-confidence, a “very true” sense of (lack of) control and a “mostly true” sense of constancy (Sheard M. , 2010; Sheard, Golby, & van Wersch, 2009). The *confidence* subscale measures self-efficacy (or the belief in your ability to achieve your goals and be better than your opponents), the *constancy* subscale measures your determination, your sense of personal responsibility, an unyielding attitude, and your ability to concentrate. Finally, the *control* subscale measures whether you perceive that you are influential and whether you can make things happen for yourself, with negatively worded items measuring your sense of “lack of” control more than feeling in control. It relates to your perception of whether you are able to control your emotions. Outcomes from the SMTQ were indicative that you may be more vulnerable to negative affectivity (i.e. the likelihood of experiencing negative emotions and poor self-concept). Thematic analysis of your chosen responses to the questionnaire highlighted themes surrounding low self-confidence; negative affectivity/emotional control (anxiety, worry, self-doubt, anger/frustration/coping under pressure); difficulty remaining attentive and focused; and difficulty being flexible. These themes informed the development of the semi-structured questionnaire.

Construct Measured	Score	%	Qualitative Description
Confidence	11 out of 24	46	Low Average
Constancy	12 out of 16	75	Average
(Lack of) Control	16 out of 16	100	Superior

## Semi-Structured Interview

Thematic analysis of the semi-structured questionnaire expanded on the SMTQ's standardised and thematic outcomes. The following sub-themes became apparent:

SMTQ Sub-Themes	Semi-Structured Questionnaire Themes
Self-confidence	<p><i>Perfectionism:</i></p> <p>"I put lots of pressure on myself [to perform].";            "...Perfection when it comes to training."; "When it comes to [studying], a pass is okay, when in sport a pass is not okay. It must be all or nothing."; "If you haven't won, have you given everything?"; "I don't fit in anywhere else [but sport]"; "I would like to be consistently at the top of my performance... consistently top three in the world."</p> <p><i>Self-criticism:</i></p> <p>"I can kick myself."; "You're stupid."; "You're not going to make it; You're not strong enough; You're not good enough You failed."</p> <p><i>Difficulty making decisions:</i></p> <p>"I can't make up my own mind."</p>
Negative affectivity/emotional control	<p><i>Emotion:</i></p> <p>"In a race I get very frustrated very quickly. And I can get very anxious, you know, if things are going pear-shaped."; "I lose my temper with myself."</p> <p><i>Attitude:</i></p> <p>"I just get sour and look for excuses and think I got the raw end of the stick or I didn't get the opportunities that other people got in life."; "The</p>

	people who I've consistently beaten... just because of who they are and where they are, [they] are getting the big sponsorships."
Attention and focus	<i>Outside influences:</i> "My mind wanders"; "The side show stuff that sometimes throws you off."
Flexibility	<i>Cognitive biases:</i> unrealistic expectations; "musts"; and dichotomous thinking. <i>Goal-setting:</i> "Then to keep up that 18 hours of training a week... you have all these little things you have to do, these commitments and then you must fit [sport] in"; "You just expect things to be where you left off... now when I'm tired it's just so easy for me to start walking."; "Sometimes it's just very hard for me to motivate myself."

Taking the mentioned information into account, the following topics have been included in the programme to psychoeducate you on particular topics related to your idiosyncrasies of mental toughness:

1. Perfectionism (to educate on themes);
2. Performance (to educate on athletic performance);
3. Cognition (to educate on thought);
4. Mindsets (to educate on confidence and flexibility);
5. Mindfulness (to educate on emotional control and attentional focus);
6. Goal-setting (to educate on confidence and flexibility).

# Programme

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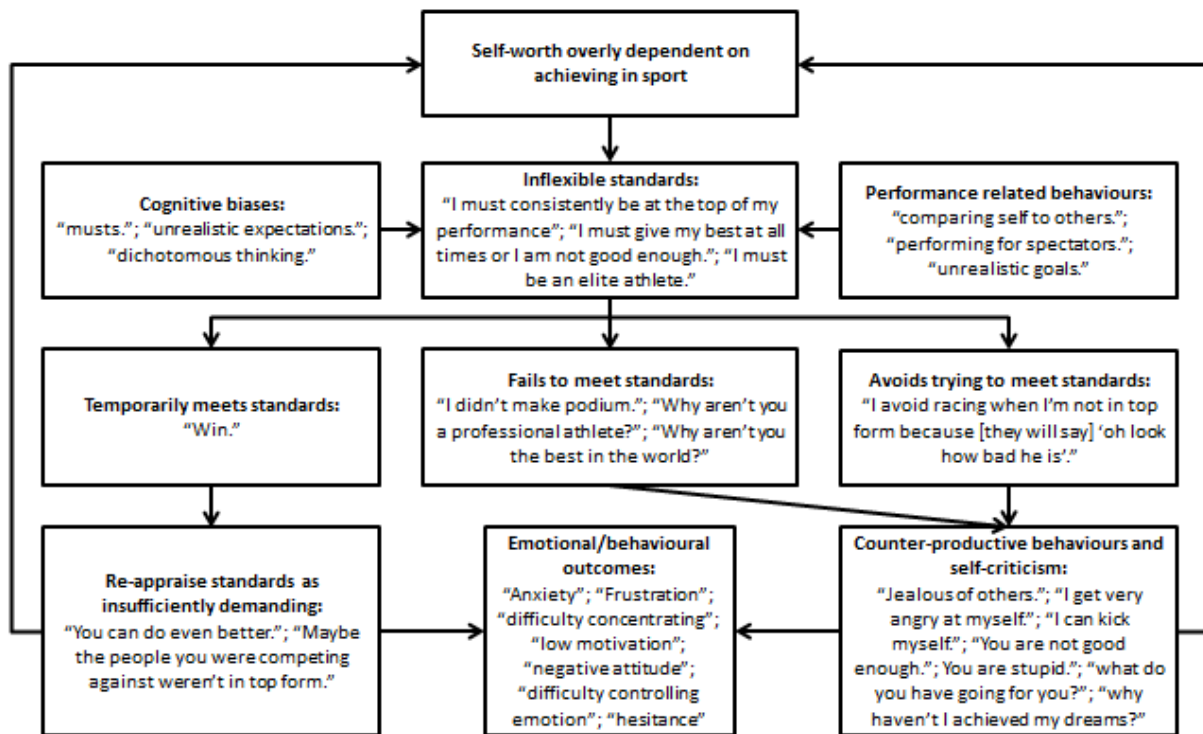
## Perfectionism

Thematic analysis of the semi-structured questionnaire indicated a sense of self-worth that is overly dependent on achievement in sport (e.g. when not performing at peak, self-criticisms include “what do you have going for you?”). This theme of perfectionism, combined with other information provided during the semi-structured questionnaire, was conceptualised in a cognitive-behavioural model of clinical perfectionism. As noted in our previous meeting where I presented this conceptualisation to you, it is not intended as a diagnosis of clinical perfectionism, but merely as a tool to assist with a clearer understanding of how your thoughts, emotions and behaviours may interact to negatively influence your sense of confidence.

Perfectionism does not only represent our common-sense understanding of a negative, disordered or dysfunctional characteristic (Flett & Hewitt, 2005). Perfectionism is well-known to be a multidimensional phenomenon with many facets, which describe two basic kinds of perfectionism: *perfectionistic strivings* (striving for perfection and setting high standards of performance) and *perfectionistic concerns* (concerns over making mistakes, fear of negative evaluation by others, feelings of discrepancy between one's expectations and performance, and negative reactions to imperfection) (Stoeber & Otto, 2006; Stoeber, 2011). Evident from the analysis of the data collected from you, it appears that anxiety, frustration, worry, anger and self-doubt are some common affective experiences related to what you experience as poor performance, and this is what informed the decision to conceptualise in terms of perfectionism (Koivula, Hassmén, & Fallby, 2002; Lizmore, Dunn, & Causgrove-Dunn, 2017).

The model depicts a sense of self-worth that is dependent on athletic/sport achievement. In an attempt to control for this, inflexible standards are attached to dysfunctional assumptions, or rules such as “I must give my best at all times or I am not good enough”. Feeding into these rules and inflexible standards are cognitive biases such as “musts”, “unrealistic expectations” and “dichotomous thinking” (also known as binary thinking or black-and-white thinking). The inflexible standards and governing rules also have performance related behaviours attached to them, such as comparing yourself to others, performing for spectators and setting unrealistic goals. When you on occasion do meet your high standards of “top performance” (includes abstract ideas such as top performance meaning that you have “given your all”) it feels like a win, but then you go back to the drawing board and re-appraise those standards as insufficient (e.g. attaining a podium finish isn't quite

good enough when the competition wasn't tough enough). On the occasion that you don't meet the high standards that you've set for yourself, you engage in counter-productive behaviours and self-criticism. Sometimes, you avoid trying to meet those high standards in an attempt not to "fail". This also leads to counter-productive behaviours and self-criticism. All in all, the behavioural/emotional outcomes of either re-appraising your standards as insufficient or the engagement in counter-productive behaviours and self-criticism include uncomfortable and performance-influencing states.





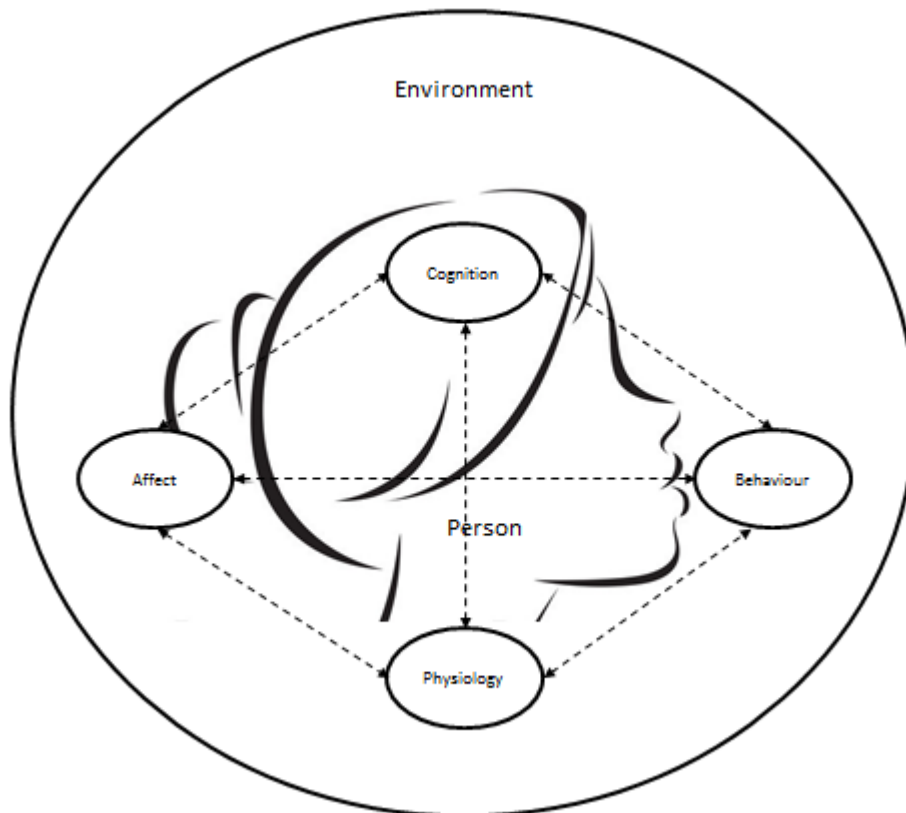
## Performance

Performance can be defined as the measurement of particular knowledge(s), skills and attributes (KSAs) against a particular standard. These KSAs are relevant to particular contexts (e.g. triathlons); they are developed over time (practice makes perfect!); they are displayed during discrete events (e.g. training or competition); they are evaluated according to a defined standard of success (did I give my best?); and they are developed and executed in collaboration with significant others (e.g. coaches, competitors, teammates, and audiences) (Portenga, Aoyagi, & Cohen, 2017).

At face value, a definition like this may indicate that if you possess the necessary combination of KSAs, you would attain peak performance. However, performance is also influenced by intrapersonal characteristics (thoughts, behaviours, and emotions), the environment and the actual demands of performance (Gardner & Moore, 2007). This means that quality of performance is not always completely in our control, as it depends on a complex interaction between physical, psychological and external factors. Ultimately, talent isn't everything (Ericsson & Charness, 1994). From this perspective, we understand athletes as multifaceted beings with varying psychological, physical, technical, and tactical characteristics (Hardy, Jones, & Gould, 1996).

## Cognition

We all have our own complex systems of cognition, affect (emotional expression), behaviour and physiology which continuously interact with each other and with the environment around us. Our reactions (behavioural or emotional) are strongly influenced by our perceptions (i.e. cognitions) of stimuli (whether internal or external) as they occur (Westbrook, Kennerly, & Kirk, 2011).



### Negative Automatic Thoughts

Negative Automatic Thoughts, also known as “NATs”, are negatively tinged interpretations that we make, or meanings that we form, from things that happen around us or within us.

NATs are automatic, specific thoughts about specific events or situations around or within us, which can become habitual and are often taken as true, particularly when our emotions are heightened. We usually don’t question them. Sometimes, they can also take the form of images, instead of just verbal constructs.

Examples of NATs are “you’re stupid!”; “what do you have going for you?”; “I am not good enough.”

## Dysfunctional Assumptions

Dysfunctional assumptions are those “rules” that we apply in order to attempt to live with negatively held beliefs about ourselves (Westbrook et al., 2011). An example of this is: “I have to give my best or it’s not good enough”, which may give rise to inflexible standards of achievement.

## Cognitive Biases

A cognitive bias is a form of exaggerated thinking based on errors of thought. We all experience these, especially when our emotions are heightened (e.g. when we’re very disappointed after not achieving what we set out to achieve). Usually, they aren’t too problematic, but they do become a problem if they are habitual or when it is too extreme and we can’t seem to see any alternatives. Below are examples of cognitive biases with common ways to address each category (Westbrook et al., 2011, pp. 172-173):

<b>Extreme Thinking (addressed through “what other possibilities may exist?”)</b>	
Dichotomous Thinking	Viewing things in all or nothing terms without appreciating the spectrum of possibilities between two extremes:  Things are “good” or “bad”, a “success” or a “failure”.  Typically, the negative category is more easily endorsed.
Unrealistic Expectations	Using exaggerated performance criteria for self/others;  Using “should”, “ought” and “must”
Catastrophisation	Predicting the very worst;  This may happen very rapidly so that it seems that you have immediately leapt to the most awful conclusion.
<b>Selective Attention (addressed through “what might a friend see?”)</b>	
Overgeneralisation	Seeing a single negative event as an indication that everything is negative.
Mental filter	Picking out and dwelling on a single negative feature without reference to other, more benign events.
Disqualifying the positive	Rejecting, down-grading or dismissing a positive event as unimportant.
Magnification and minimisation	Exaggerating the importance of negative events and underestimating the importance of positive events.

<b>Relying on intuition (addressed through accepting that feelings do not necessarily represent reality)</b>	
Jumping to conclusions	Making interpretations in the absence of facts to support them. e.g. mind reading or fortune telling
Emotional reasoning	Assuming that feelings reflect facts.
<b>Self-reproach (addressed through “am I blaming myself unfairly? Who else might be responsible?”)</b>	
Taking things personally	Assuming responsibility if something (perceived as) bad happens.
Self-blame or self-criticism	Seeing oneself as the cause of a bad event or criticising oneself without cause.
Name-calling	Attaching harsh and demeaning names to oneself.

## Mindsets

Dweck's theory of mindsets makes the distinction between two mindsets: fixed and growth (Dweck, 1986; Dweck & Elliot, 1983). Originally developed in the context of education, the theory has been applied to sport and how it relates to athletic performance. A fixed-mindset attributes superior performance to natural ability, putting hard work and practice at the bottom of the list of priorities and making avoidance of failure the a top priority. A growth-mindset, on the other hand, believes that reaching one's potential is as a result of consistent effort and practice, embracing failure an opportunity to identify and develop weaknesses (Dweck, 2009). This promotes a healthier attitude towards failure and generates improvement in motivation and performance as you are able to respond to situations more efficiently (Golby & Wood, 2016). The effects of active changes in mindset can even be seen on neural imaging, confirming that neural pathways are able to grow and develop and that even the structure of the brain can be influenced by learning. A growth-mindset allows each individual to embrace learning, to welcome challenges, mistakes, and feedback, and to understand the role of effort in creating talent.

Each mindset creates a distinct psychological world and each world operates according to different rules:

Fixed-mindset	Growth-mindset
Look talented at all costs.	Learn, learn, learn!
Don't work too hard or practice too much – it's all about talent.	Effort is the key, even geniuses need to work hard. Work with passion and dedication.
When faced with setbacks, run away or conceal your deficiencies. Look competent at all costs, because mistakes are the enemy.	Embrace your mistakes and confront your deficiencies. Learning happens when we make mistakes.

**Exercise: Growth-mindset-dilemma to stimulate growth-mindset solution focus (Dweck, 2006):**

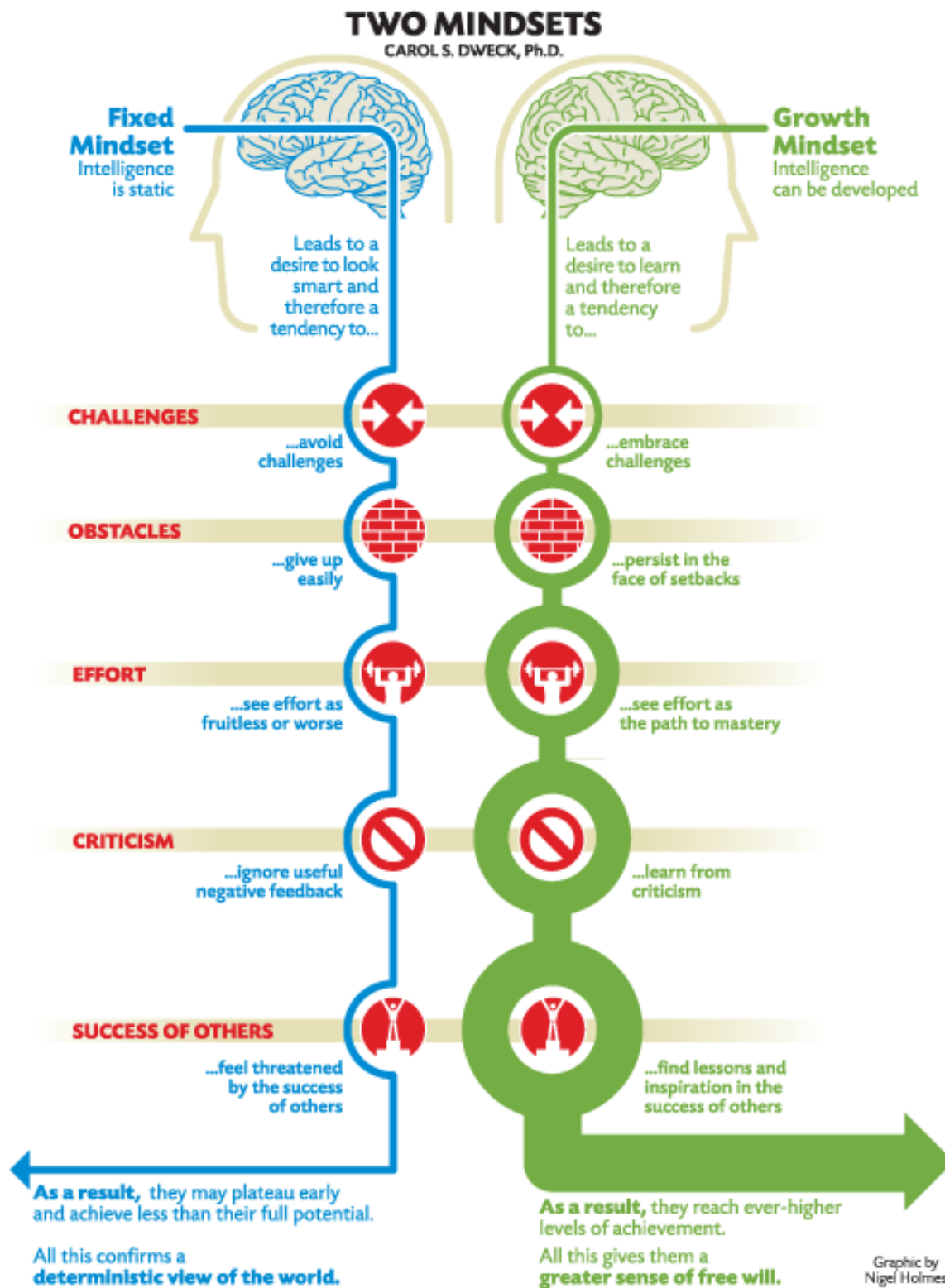
Imagine you're standing at the start-line of the Iron Man Triathlon. This has been your dream since you started thinking about competing in triathlons. You've made sure everything is how it's supposed to be. You're waiting for the gun to signal the start of the race, when you notice that the waves in the ocean look particularly big today and you remember that one time when you were not doing so well when swimming in larger waves and strong currents. You start to become anxious and wonder if you'll ever reach that podium.

**Fixed-mindset reaction:**

The gun goes off and you run into the water. You can't stop thinking about how hard it is to do this, and how you really aren't good at swimming. This must mean that you're a failure, because you could have prevented this by training harder. Although you can't see the other swimmers, you know you are probably at the back of the pack and this makes you feel frustrated with yourself. The swim is over, and you decide that you're never taking part in a triathlon again, since you're never going to master the swimming part of it.

**Growth-mindset reaction:**

In the growth-mindset, you tell yourself that this is only your second attempt at swimming in the ocean and that swimming takes a lot of extra learning when you grew up in the Karoo. Swimming in the ocean now means having the opportunity to hone this new skill. At the end of the day, you reflect on what you've learnt. You realise that there are future opportunities for you to try this again, and that you're already better at swimming than you were before this race because you had the opportunity to practice. You imagine where you could be in six months' time. You decide to speak to the athletes that reached podium, and ask them how they felt when they had to swim in the ocean for the first time. One of them shares some embarrassing stories and says how long it took him to learn to be confident in his swimming skills. Another one shares how he's always loved the swimming component, but how he always loses time during the run. You agree to share techniques with each other. You realise that you have more to offer than you thought you did.



## Goal-Setting

You have already identified where you want to go: “I want to be an elite athlete”.

This is an example of an *outcome* goal (Burton, 1989), also known as a “winning” goal or the “big picture”. If you are focusing only on achieving this goal, it’s basing your competence on whether you win or lose against competitors rather than on how you are actually performing individually. It has been found that focusing only on these kinds of goals lacks flexibility and that we do not have enough control over them to bring about consistent success. It also doesn’t assist you with taking credit for your success, since this kind of goal is outside your immediate control.

There are also *performance* goals (Burton, 1989). These goals are more measurable and realistic. One positive of performance goals is that they give some flexibility to be able to adjust them to be in line your current levels of capability, ensuring consistent success and permitting a higher sense of control over your own successes so that you can internalise your achievements as an indication of your ability.

Finally, there are also *learning* goals (Dweck & Elliot, 1983). These goals refer to the shortest-term, most controllable goals and refer to more than just the outcomes that we wish to achieve. They include a focus on skills development and those necessary competencies that have to be developed in your quest to reaching your performance goals.

As mentioned in the “mindsets” section, you can value either learning goals and hold an incremental theory or “growth” mindset, or you can value performance goals, holding an entity theory or “fixed-mindset”. Learning goals are directed towards competence acquisition, and performance goals are directed towards an external validation of competence (Dweck, 2006; Elliot & Dweck, 1988)

However, regardless of whether we hold a growth-mindset or a fixed-mindset, we can make life easier for ourselves by setting goals that are SMART (Doran, 1981). This means that we set goals that are **Specific; Measurable; Attainable; Relevant; and Time-based.**

Applying the SMART approach to goal-setting, whether the goal’s aim is to help you acquire skills or receive external validation, may provide you with a clearer way of setting out what you wish to achieve.



## Mindfulness

“Mindfulness practice promotes mindful responding as opposed to mindless reacting to life events” (Gardner & Moore, 2007, p. 35)

Mindfulness is a practice that emphasises non-judging, non-evaluative attention to experiences in the current moment. These experiences, or current realities, can include both external and internal events and stimuli. Basically, information that enters our awareness is noticed, but we practice not to apply value-judgements (e.g. good/bad; stupid/smart; right/wrong) to this information. Instead of categorising events/stimuli, they are observed and described and we do not attempt to judge or control them.

Another way of thinking of mindfulness is to consider it as a skill in “paying attention” to the things around and within us. Mindfulness is an activity that we learn and practice, and we become better at it over time. Initially as we start practicing this skill we start engaging in metacognition, also known as “thinking about our thinking”. It helps us to draw our attention away from a self-focus, and onto a task-focus, so that we are able to attend to the task at hand instead of becoming distracted by our evaluations of our experiences. Over time, we are able to minimise direct efforts to distract ourselves from negative thoughts, and are able to evaluate them purely as opinions as they exist in our minds, and not as facts about what is happening in or around us. In essence, mindfulness strategies reduce cognitive activity, freeing up space to focus on our actual task-performance.

### **Brief Centring Exercise taken from Gardner & Moore (2007, p. 75):**

This brief exercise will help you focus on the immediate moment. You will also begin the process of developing the skill of mindful attention. This exercise should take you about five minutes to complete. As with any other exercise or activity, before you start, remember that success requires the development of specific skills, and a commitment to working on the development of these skills is the first step to success.

Please find a comfortable starting position. Notice the position of your feet, arms and hands. Allow your eyes to close gently. [Pause 10 seconds] breathe in and out gently and deeply several times. Notice the sound and feel of your own breath as you breathe in and out. [Pause 10 seconds]

At this time, focus your attention on your surroundings. Notice any sounds that may be occurring. What sounds are occurring inside the room? [Pause 10 seconds] Now focus your attention on the areas where your body touches the chair in which you are sitting. Notice the physical sensations that occur from this contact. [Pause 10 seconds] Now notice the spot where your hands are touching the front of your legs. [Pause 10 seconds]. Now notice any sensations that may be occurring in the rest of your body and notice how they may change over time without any effort on your part [Pause 10 seconds]. Don't try to alter these sensations, just notice them as they occur. [Pause 10 seconds]

Now let your thoughts focus on why you have chosen your particular goals for the day [Pause 10 seconds]. See if you can notice any doubts or other thoughts without doing anything but noticing them. Just notice your reservations, concerns and worries as though they are elements of a parade passing through your mind. [Pause 10 seconds] See if you can simply notice them and acknowledge their presence. [Pause 10 seconds] Don't try to make them go away or change them in any way. [Pause 10 seconds] Now allow yourself to focus on what you want your performance life to be about. [Pause 10 seconds] what is most important to you? what do you want to do with your skills? [Pause 10 seconds]

Remain comfortable for a few more moments and slowly let yourself focus once again on any sounds and movements occurring around you. [Pause 10 seconds] Once again notice your own breathing. When you are ready, open your eyes and notice that you feel focused and attentive.

# Workbook

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Dear Participant,

The practical component of this psychoeducational workbook takes the form of a practical, day-by-day engagement with the information that has been provided to you. It consists of seven days in which you engage actively throughout your training and provides guidance in terms of practical application of the information discussed.

Training (and performance) is conceptualised in terms of three phases (Gardner & Moore, 2007): The pre-performance phase, the performance phase and the post-performance response phase. The pre-performance phase aims to set the stage for training. The performance phase refers to the active stage of performance, whether this is training or competition. The post-performance response phase engages in activities after you have completed your training/competition, aimed at reflection on the previous two phases. During all phases, you will be faced with dispositional characteristics (internal rule systems, thoughts, emotions, behaviours), as well as stimuli from the environment (e.g. relationships with others, demands of the training/competition, logistical aspects – all those things that you may be called on to respond to). This usually happens quite automatically – you probably don't even notice that all these things are happening while you are training or competing. Please bear in mind that practice makes perfect – and that this also counts for the psychological changes. At first, you may experience tasks in an uncomfortable manner, but the point of this is to expose you to information and to assist you to actively engage with the information (instead of listening to a facilitator ramble on about skills/techniques/psychobabble).

If you have any questions, please don't hesitate to contact me.

Kind regards,

Marlé Coertzen

Registered Intern Counselling Psychologist

PSIN0144690

Rhodes University Counselling Centre



## Day-by-Day Overview of Tasks

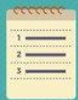
Pre-Performance Phase	Performance Phase	Post-performance Response Phase
<p><b>Goal Setting:</b></p> <p>Set particular goals for each day's activities (include activities unrelated to sport).</p> <p><b>Questions</b> (Dweck C. S., 2006):</p> <p>What are my plans for learning and growth today, for myself and for others around me?</p> <p>When, where and how do I plan to do this?</p> <p>As obstacles or setbacks happen, form a new plan and ask when, where and how will I implement this plan?</p> <p>Continue with your plan, even if it feels impossible.</p> <p><b>Brief Centering Exercise:</b></p> <p>You can engage in this exercise any time during the day.</p>	<p><b>Engagement:</b></p> <p>Practice mindfully perceiving with what you are exposed to during training (this can also be done during the rest of each day's activities, whether you are running, cycling, swimming, working, etc.)</p>	<p><b>Reflect:</b></p> <p>Complete a DTR of any noteworthy cognitive/ emotional/ behavioural experiences during pre-performance and performance.</p> <p><b>Questions:</b></p> <p>Reflect on the successes of the day, based on the plans that you made and the goals that you set out to achieve.</p> <p>What mistakes did you make today, and what did you learn from them?</p>

# Coaching a Growth Mindset

## 5 Questions to Develop a Growth Mindset



What did you learn from today's performance?



What steps did you take to make you successful today?



What are some different strategies you could have used?



How did you keep going when things got tough?



What can you learn from your opponent today?



## 5 Feedback Comments to Develop a Growth Mindset

This will be a challenging concept to learn, but I believe you can master it



You haven't got it yet, but you will if you keep working and thinking about it



I really appreciated your effort today



It is okay to take risks, that's how we learn

Getting better takes time and I see you improving

